



## DOST-ITDI Introduces Philippine-Developed Commercial Electrolytic Conductivity Standards



The Department of Science and Technology – Industrial Technology Development Institute (DOST-ITDI), through its National Metrology Division (NMD), proudly announces the launch of its first commercial electrolytic conductivity (EC) standard. This landmark achievement marks a significant step forward in enhancing the accuracy and reliability of chemical measurements in the Philippines. The initiative underscores DOST-ITDI's dedication to bolstering the nation's metrology infrastructure and supporting its scientific and industrial sectors.

**Inspired by Technology, Driven by Innovation**



**DOST-ITDI**

**S&T MEDIA SERVICE**

[www.itdi.dost.gov.ph](http://www.itdi.dost.gov.ph)



### The Importance of Electrolytic Conductivity

Electrolytic conductivity is a critical parameter across various industries, including pharmaceuticals, food and beverage production, environmental monitoring, water treatment, and chemical manufacturing. Accurate conductivity measurements ensure product quality, process consistency, and safety, particularly in applications where the properties of aqueous solutions are vital to outcomes. Achieving reliable measurements requires calibration standards traceable to the International System of Units (SI).

Recognizing the limited availability of SI-traceable commercial standards in the Philippines, DOST-ITDI has developed a new commercial electrolytic conductivity standard. This innovation sets a new benchmark for conductivity measurements in the country, addressing the growing demand for accurate and traceable calibration solutions across various industries.

### The Development Journey

The Metrology in Chemistry Section (MiC) of NMD, under the leadership of Ms. Alleni T. Junsay, MSc, developed the 1410  $\mu\text{S}/\text{cm}$  commercial EC standard, designed to meet the growing demands of Philippine industries. The initiative aims to provide a dependable, locally available solution that ensures traceability to SI units.

The project involved rigorous validation and preparation processes. The MiC team ensured the commercial EC standard's metrological traceability by calibrating it using primary and secondary conductivity standards. This ensures confidence in measurements across various applications and strengthens the country's calibration capabilities.

### Applications of the Commercial EC Standard

The commercial EC standard is a trusted tool for industry professionals, research institutions, and calibration laboratories. Its diverse applications include:

**Water Quality Monitoring:** Ensures accurate conductivity measurements for industrial processes, environmental assessments, and laboratory testing.

**Pharmaceuticals:** Verifies the conductivity of solutions used in drug production, especially injectables and sensitive formulations.

**Inspired by Technology, Driven by Innovation**

Department of Science and Technology INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE  
DOST Compound, General Santos Avenue, Bicutan, Taguig City Tel.: (02) 8837-2071 local 2184 / 2268



# DOST-ITDI S&T MEDIA SERVICE

[www.itdi.dost.gov.ph](http://www.itdi.dost.gov.ph)



**Food and Beverage:** Maintain product consistency and quality by monitoring solution conductivity.

**Environmental Testing:** Measures conductivity to assess water pollution levels and comply with environmental regulations.

## Future Directions

DOST-ITDI is committed to expanding its portfolio of reference materials and calibration services to meet the nation's evolving needs. The launch of the commercial electrolytic conductivity (EC) standard marks a significant milestone in the field of electrochemistry. Building on this achievement, the institute aims to develop primary and secondary EC standards using higher-order instruments, as well as pH standards, to further advance the country's measurement capabilities.

This initiative is a step toward strengthening the Philippines' measurement infrastructure and ensuring the accuracy and reliability of chemical measurements for years to come.  
(NMD)



**Inspired by Technology, Driven by Innovation**

Department of Science and Technology INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE  
DOST Compound, General Santos Avenue, Bicutan, Taguig City Tel.: (02) 8837-2071 local 2184 / 2268