# Good Pipetting Practice



# **GPP** – Improve data consistency

Risk based

Life cycle oriented

Application specific

# Minimize Risk, Maximize Repeatability

Improve the Quality of Your Data



# Minimize Pipetting Risks with GPP™ Boost Data Accuracy and Reproducibility

Improve your data quality with Good Pipetting Practice — the comprehensive, systematic METTLER TOLEDO approach to maximizing pipetting accuracy and reproducibility. Organized into five major components, GPP is grounded in Rainin's more than 40 years of expertise working side-by-side with researchers to achieve the highest levels of accuracy and precision across all applications.

Apply the principles of GPP in your lab and everyone on your team will:

- Understand the array of liquid handling instruments and options available
- Know how to optimize their workflow for each of the liquid handling steps involved
- Gain the range of pipetting skills necessary to produce reliable data
- Appreciate how ergonomics can influence data production and their own comfort
- Recognize the risk associated with out-of-calibration pipettes and the role of routine checks versus professional service.

# **Evaluation**



### **Determine your needs**

Understanding your options is the first step toward achieving more reproducible results. A clear idea of your desired workflow and the level of accuracy and precision required will speed your evaluation of applicable tools and technologies.

Selection



### Get the right tools

Liquid characteristics profoundly affect pipette performance. Your time and materials are expensive, so making sure that pipettes, tips and related tools are the most appropriate for your application will save money and increase productivity.

Training

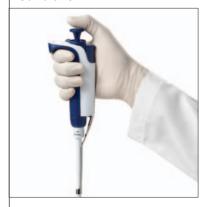


### Assure proper use

An optimized pipetting system is only as good as the people who use it. Proper training in ergonomics and good technique such as knowing which methods to use for various liquids will enhance accuracy and the repeatability of your results.



# Calibration



# **Calibration certification**

High-quality pipettes should come with a calibration certificate when purchased, then be put on a schedule for regular calibration, based on use. Try our online Risk Check tool to better understand and mitigate your risks: www.mt.com/gpp

# **Routine Operation**



# Verification and service

Periodic verification and a system for assuring that every pipette in your lab receives regular service is essential to maintaining a high performance environment.

Risk based GPP Life Cycle



# Comprehensive Lifecycle Management Five Steps to Improved Measuring Results

GPP™ is part of the global METTLER TOLEDO Good Measuring Practices program, which covers the five key steps of any instrument's life cycle. We also take into account regulatory requirements and norms relevant to your industry. With this information, Good Measuring Practices provide straight forward recommendations for selecting, installing, calibrating and operating laboratory equipment such as weighing, titration and pipetting systems.

# **Routine Operation**

To assure continuous process safety, your instruments need regular performance verification and calibration. The Good Measuring Practices guidelines provide you with clear recommendations for optimal routine testing and maintenance.

### Calibration/Qualification

Trust the METTLER TOLEDO trained service team when it comes to calibrating and qualifying your instruments. Our expertise assures compliance with your process requirements and your industry's regulations and norms.





# 1 Evaluation

# **Evaluation**

It all starts with a detailed understanding of your process flows and the criteria required for consistently achieving highest quality of your applications and your data.

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# Selection

Our application experts support you in choosing the ideal combination of instrument and measuring technology to best match your process needs.

# Installation/Training

Enjoy every confidence in your new instrument and master it with full professional skills right from day one.

# **Process Reliability**

# With Good Measuring Practices

The Good Measuring Practices program is supporting you in laboratory and production environments with quality assurance measures for pipetting, titration and weighing. By focusing on processes and their associated requirements and risks, Good Measuring Practices guidelines help ensure that reliable measuring methods are integral to your quality management system.

# **Risk Control and Cost Optimization**

Good Measuring Practices offer solid guidance for evaluating process risks and determining the optimal testing and maintenance schemes for your measuring devices. By improving instrument performance you minimize process risk, gain greater confidence during internal and external audits and optimize your total cost of ownership. The guidelines are extremely useful in implement-

ing a sound quality management system and maintaining the quality of your processes.

# Comprehensive Lifecycle Approach

For the five steps of the comprehensive lifecycle approach, Good Measuring Practices provide effective measures to maximize operational security and minimize testing cost and process risk.



## **Guaranteed Quality**

Good Measuring Practices by METTLER TOLEDO guarantee better weighing, titration and pipetting results, providing in-depth instrument, application and compliance expertise.



## Safe Audits

The program provides qualification and calibration certificates, documenting the necessary performance verification of all equipment in audit-proof reports.



## **Reduced Costs**

Proposed testing strategies are cost-optimized yet safe and are based on a risk assessment of the relevant parameters:

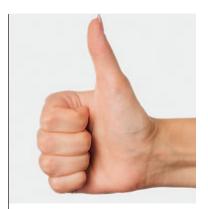
- instrument functionalities
- process requirements
- environmental influences





# **Minimized Risks**

The Good Measuring Practices program is designed to assist you in defining and implementing operational methods to assure accurate results and fulfill regulatory requirements.



# Optimized Operational Efforts Optimized testing scangries in-

Optimized testing scenarios involving both the instrument operator and the METTLER TOLEDO Service team ensure sustainable measuring quality and production processes at all times.

# **Good Measuring Practices**

Risk-based guidelines for weighing, titration and pipetting from METTLER TOLEDO empower you to make the right decision when it really matters. Enjoy confidence in your process safety and instrument performance day in, day out, knowing that you fully comply with the regulatory norms of your industry. Good Measuring Practices guidelines satisfy all your needs for quality assurance, providing you with peace of mind at all times!

**Good Measuring Practices** 

www.mt.com/GP

# What's Your Pipetting Risk?

Good Pipetting Practice is a comprehensive, customized program for determining your specific pipetting risks and understanding how to mitigate them. Our GPP Risk Check<sup>™</sup> is a great way to get started — take just 5 minutes and you will receive an assessment of your pipetting risks and recommendations for minimizing them.



METTLER TOLEDO has a comprehensive seminar offering around GPP and risk management in pipetting. If you are interested, please get in contact with your Rainin representative.

www.mt.com/gpp.

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