

**KCMC Biotechnology
Laboratory**

**STANDARD
OPERATING
PROCEDURE**

Effective Date
16 May 2007

SOP-Number
EQP.009

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Date
16 May 2007

Title: CLEANING AND MAINTENANCE OF LABORATORY EQUIPMENT

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Title: CLEANING AND MAINTENANCE OF LABORATORY EQUIPMENT

PURPOSE

This SOP provides a summary of the cleaning and maintenance required for small instruments and miscellaneous equipment in use at the KCMC Biotechnology.

PRINCIPLE

Keeping laboratory equipment clean and performing the recommended routine maintenance and monitoring is essential for accurate performance of laboratory tests and maintaining the longevity of equipment.

SCOPE

This Standard Operating Procedure applies to all Biotechnology Laboratory technical personnel who use laboratory equipment and participate in routine maintenance procedures. It is the responsibility of the Laboratory Manager and/or QC/QC Coordinator to monitor compliance and review documentation.

STANDARD PRECAUTIONS

Personnel should use personal protective equipment appropriate for the cleaning and maintenance tasks on equipment that is used for processing/testing potentially contaminated or clinical samples. Standard precautions are outlined in SAF.001 BIOHAZARD SAFETY SOP.

CLEANING EQUIPMENT

Soft cloths

Mild detergent

70% alcohol for disinfection

1% sodium hypochlorite or 10% bleach for disinfection of non-stainless steel surfaces.

Glass cleaner

EQUIPMENT AND INSTRUMENTS

Balances

Centrifuges

Freezers

Heat Blocks

Incubators

Microscopes

Refrigerators

Shower

Water baths

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EQUIPMENT INVENTORY

1. A comprehensive inventory of all laboratory equipment should be maintained that will include the following information:
 - Manufacturer
 - Model Number
 - Serial number
 - Date acquired
 - Location
 - Service contract (if appropriate)

MAINTENANCE/SERVICE CONTRACTS

1. A contract has been arranged with Swiss Garden, Dar-es-Salaam for routine maintenance on large equipment: autoclave, biosafety cabinets, fume hood, incubators, centrifuges refrigerators, freezers.
2. A contract has been arranged for service of Microscopes by Jencons, Nairobi, Kenya.

CLEANING PROCEDURES/SCHEDULE – Refer to Table 1.

MAINTENANCE PROCEDURES/SCHEDULE – Refer to Table 2.

DOCUMENTATION

1. Record all cleaning and maintenance on appropriate log sheet.
2. Supervisor will review cleaning and maintenance logs monthly.

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Table 1. Cleaning Procedures/Schedule

| Equipment | DAILY OR EACH USE | WEEKLY | OTHER | DOCUMENTATION |
|-------------------|---|---|---|--|
| BIOSAFETY CABINET | Clean/disinfect surfaces daily and after each use. | | | MICROBIOLOGY CLEANING LOG |
| CENTRIFUGE | | Clean and disinfect and interior surfaces, buckets, rotor | | MICROBIOLOGY CLEANING LOG |
| COLD CHAMBER | | | Every 3 months: Clean/disinfect interior shelves. | COLD CHAMBER MAINTENANCE LOG |
| FREEZERS (-85) | | Check for ice buildup and scrape if necessary. Clean fan cover | At time of defrosting: Clean interior surfaces. | MICROBIOLOGY CLEANING LOG |
| FUME HOOD | Clean interior surfaces | Clean exterior surfaces. | | BIOTECH MAINTENANCE LOG |
| HEATING BLOCK | Clean/disinfect spills. | Clean/disinfect exterior surfaces | | MICROBIOLOGY CLEANING LOG |
| INCUBATORS | | Remove , clean and disinfect shelves with 70% alcohol and wash with mild detergent. | | MICROBIOLOGY CLEANING LOG |
| MICROSCOPES | Keep microscopes free of dust by covering when not in use. Wipe objective and stage with glass cleaner. | | | |
| REFRIGERATORS | | | Every 3 months: Remove items and clean interior surfaces. Defrost freezer compartments when ice buildup forms and clean interior surfaces. | MICROBIOLOGY AND HEMATOLOGY MAINTENANCE LOGS |

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Table 2. Maintenance Procedures and Schedule

| Equipment | ANNUALLY | OTHER | DOCUMENTATION |
|----------------------|--|--|--|
| BALANCES | Calibrate using certified weights. Refer to BALANCE CALIBRATION SOP EQP.006 | | BALANCE CALIBRATION WORKSHEETS See BALANCE CALIBRATION SOP EQP.005 |
| CENTRIFUGE | Calibrate speed, timer and refrigerator temperature . Check bearings and rotor balance (service technician). Refer to SOP EQP. 005 CENTRIFUGE CALIBRATION | | CENTRIFUGE CALIBRATION LOG See CENTRIFUGE CALIBRATION SOP EQP.006 |
| COLD CHAMBER | | Every 4 months: Clean fixed and mobile parts of all contactors and replace if needed. Check electrical connections and fuse elements. Check refrigerating circuit for oil or refrigerant leaks. Check color of the moisture sensing element through the sight glass and if yellow, replace filter on liquid line, and both refrigerant and oil. Clean condenser. Check that condensation water outlet drainage is not blocked. | COLD CHAMBER CLEANING/MAINTENANCE LOG |
| FREEZER -85°C | | Monthly: Clean filter cover. Every 3 months: Clean condensers . Clean filter when prompted. Semiannually: Clean fan and blower motor. | MICROBIOLOGY CLEANING LOG FREEZER MAINTENANCE LOG |
| INCUBATOR | | Every 3 months: Check air inlet filter for discoloration. Replace CO2 supply filter after every 5 th CO2 tank. Biannually: Replace CO2 air pump filter or when discolored (brown). | MISC EQUIPMENT MAINTENANCE LOG |
| MICROPLATE READER | Remove filters and clean using a lint- free cloth or replace. Calibrate instrument. | | MISC EQUIPMENT MAINTENANCE LOG |
| MICROPLATE WASHER | Remove and clean filters using a lint- free cloth or replace. | | MISC EQUIPMENT MAINTENANCE LOG |
| MICROSCOPES | Clean and check optics by a qualified service technician | | MICROBIOLOGY EQUIPMENT MAINTENANCE LOG HEMATOLOGY EQUIPMENT MAINTENANCE LOG |
| REFRIGERATOR | | Semiannually: Clean/remove dust from condensers and fans. | REFRIGERATOR MAINTENANCE LOG |
| SAFETY SHOWER | Turn on shower to test water pressure and assure flow. | | SAFETY SHOWER MAINTENANCE LOG |

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