



Biodiesel Quality Assurance Manager Job Guide

February 2008

Biodiesel Quality Assurance Manager Job Guide

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CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|----|------|----------------|-------|------------|----------------------|
|----|------|----------------|-------|------------|----------------------|

CONFIDENTIAL

| A1 Ensure Compliance with All Lab Safety Requirements/Procedures for All Lab Personnel | | | | | |
|---|--|--|--|--|--|
| <p>1 Ensure lab chemical hygiene plan is understood/followed by all lab personnel</p> | <p>Know safety SOPs Know location of all safety SOPs Know correct storage methods for PPE Know correct use of all PPE Know to monitor air, use correct PPE, follow safety guidelines Know correct spill reporting procedure Know how to isolate and cleanup small spills Know to secure restricted lab chemicals Know how to identify deviations from standard procedures Know to report deviations from safety program to safety supervisors Know to maintain a chemical hygiene plan</p> | | | | |
| <p>2 Use/enforce the use of all PPE</p> | <p>Know safety SOPs Know location of all safety SOPs Know correct storage methods for PPE Know correct PM schedule/correct PM procedures for PPE Know correct use of all PPE Know to report deviations from safety program to safety supervisors</p> | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|--|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 3 Ensure the emergency action plan/evacuation procedures are followed by all lab personnel | Know safety SOPs Know location of all safety SOPs Know correct fire extinguisher use per training Know correct spill reporting procedure Know how to isolate and cleanup small spills Know to remind operators about using PPE/work procedures Know how to access plant E.A.P. Know location of evacuation/invacuation sites Know to report deviations from safety program to safety supervisors Know how to respond to inclement weather | | | | |
| 4 Make certain all lab chemicals are handled/stored per current good lab practices (cGLP) by all lab personel | Know safety SOPs Know location of all safety SOPs Know correct use of all PPE Know correct spill reporting procedure Know how to isolate and cleanup small spills Know to secure restricted lab chemicals Know to report deviations from safety program to safety supervisors | | | | |
| 5 Enforce lab housekeeping practices/ ensure all lab personnel do the same | Know to remove trash/waste and dispose of properly Know to clean all equipment/motors/machinery/ electrical controls Know to return tools/equipment to their designated area Know to clean up spills/dust/leaks promptly Know to keep aisles/doorways/stairs clean and clear Know to keep the area around fire extinguishers clean and clear | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

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|---|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 6 Ensure lab is secure per lab security guidelines | Know to lock up gases Know to lock up hazardous waste Know to identify/report all non-registered visitors Know to activate venting equipment Know how to respond to inclement weather Know to maintain a chemical hygiene plan Know how to manage/direct reports | | | | |
| 7 Make certain all follow blood borne pathogen program | Know safety SOPs Know location of all safety SOPs Know correct use of all PPE Know correct spill reporting procedure Know how to isolate and cleanup small spills Know how to access plant E.A.P. Know how to respond to blood borne pathogens | | | | |
| 8 Anticipate incidents/hazards/instruct lab personnel to do the same | Know safety SOPs Know location of all safety SOPs Know to remind operators about using PPE/work procedures Know to report deviations from safety program to safety supervisors | | | | |
| 9 Ensure lab worksites/equipment is ergonomically sound/correct | Know safety SOPs Know location of all safety SOPs Know to report deviations from safety program to safety supervisor Know to respond to comments/suggestions of direct reports | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 10 Make certain all personal communicate with operators when gathering samples | Know safety SOPs Know location of all safety SOPs Know correct use of all PPE Know work areas that are intrinsically safe/use proper radios, radios, flashlights, tools Know correct spill reporting procedure Know how to isolate and cleanup small spills Know to remind operators about using PPE/work procedures Know to report deviations from safety program to safety supervisors Know how to properly communicate in person and by radio Know to respond to comments/suggestions of direct reports | | | | |
| 11 Ensure safety devices are never by-passed on lab equipment | Know safety SOPs Know location of all safety SOPs Know to report deviations from safety program to safety supervisors Know to activate venting equipment Know to respond to comments/suggestions of direct reports | | | | |

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|--|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| <p>12 Ensure correct spill/clean-up procedures are followed by all lab personnel</p> | <p>Know safety SOPs Know location of all safety SOPs Know correct use of all PPE Know correct spill reporting procedure Know how to isolate and cleanup small spills Know to remind operators about using PPE/work procedures Know how to access plant E.A.P. Know location of evacuation/invacuation sites Know to report deviations from safety program to safety supervisors Know to activate venting equipment Know to respond to comments/suggestions of direct reports</p> | | | | |
| <p>13 Make certain all chemical waste disposal procedures are correctly followed by all lab personnel</p> | <p>Know safety SOPs Know location of all safety SOPs Know correct use of all PPE Know correct spill reporting procedure Know how to isolate and cleanup small spills Know to remind operators about using PPE/work procedures Know to report deviations from safety program to safety supervisors Know to place waste chemicals in approved storage devices Know to respond to comments/suggestions of direct reports</p> | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

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|--|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 14 Ensure all lab individuals follow sharps/broken glass procedures | Know safety SOPs Know location of all safety SOPs Know correct use of all PPE Know to remind operators about using PPE/work procedures Know to report deviations from safety program to safety supervisors Know to place sharps/broken glass in approved containers Know to respond to comments/suggestions of direct reports | | | | |
| 15 Make certain all lab venting equipment is used correctly/maintained by all lab personnel | Know safety SOPs Know location of all safety SOPs Know to report deviations from safety program to safety supervisors Know to activate venting equipment Know to respond to comments/suggestions of direct reports | | | | |
| 16 Ensure confined space permitting procedures are understood by all lab personnel | Know safety SOPs Know location of all safety SOPs Know to attend and participate in all plant safety meetings Know correct use of all PPE Know plant specific plan, SOPs Know to report deviations from safety program to safety supervisors Know the requirements of the confined space program Know to respond to comments/suggestions of direct reports Know nitrogen safety requirements/danger | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|--|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 17 Make certain correct Lock Out/Tag Out procedures are Understood by all lab personnel | Know safety SOPs Know location of all safety SOPs Know correct LO/TO procedures Know plant specific plan, SOPs Know work areas that are intrinsically safe/use proper radios, radios, flashlights, tools Know to report deviations from safety program to safety supervisors Know to respond to comments/suggestions of direct reports | | | | |
| 18 Ensure emergency eyewash station/showers are tested per schedule | Know safety SOPs Know location of all safety SOPs Know to report deviations from safety program to safety supervisors Know to respond to comments/suggestions of direct reports | | | | |
| 19 Make certain all lab personnel can use fire extinguishers correctly | Know safety SOPs Know location of all safety SOPs Know correct fire extinguisher use per training Know how to access plant E.A.P. Know location of evacuation/invacuation sites Know to report deviations from safety program to safety supervisors Know to respond to comments/suggestions of direct reports | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|--|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 20 Ensure lab personnel can use a respirator correctly | Know safety SOPs Know location of all safety SOPs Know correct storage methods for PPE Know correct PM schedule/correct PM procedures for PPE Know correct use of all PPE Know to monitor air, use correct PPE, follow safety guidelines Know to remind operators about using PPE/work procedures Know to report deviations from safety program to safety supervisors Know to respond to comments/suggestions of direct reports | | | | |
| 21 Ensure all safety related documentation is completed | Know safety SOPs Know location of all safety SOPs Know to report deviations from safety program to safety supervisors Know how to properly communicate in person and by radio Know to maintain a chemical hygiene plan Know to respond to comments/suggestions of direct reports | | | | |
| 22 Participate in all plant safety meetings | Know schedule Know to ask questions | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

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|----|------|----------------|-------|------------|----------------------|
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CONFIDENTIAL

| A2 Perform Lab tests | | | | | |
|--|---|--|--|--|--|
| <p>1 Perform flash point test</p> | <p>Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know ASTM specs Know QC req per BQ 9000 Know to complete QC check on flashpoint test equipment Know to apply the following lab skills: read a thermometer, measure liquid, operate a stopwatch</p> | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 2 Perform total acid number test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know ASTM specs Know QC req per BQ 9000 Know equipment PM procedures Know to apply the following lab skills: measure liquids (weight, volume), solution normalization | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|-----------------------------------|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 3 Perform cloud point test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know ASTM reporting procedures Know company specs Know QC per BQ9000 Know to apply the following lab skills: read a thermometer, measure liquids | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 4 Perform biodiesel density test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know ASTM report procedures Know company specs Know QC per BQ 9000 Know how to apply the following skills: read a thermometer, hydrometer, measurement of liquid volumetric | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|--|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 5 Perform water and sediment test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know ASTM specs Know QC per BQ 9000 | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 6 Perform free and total glycerin test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know ASTM specs Know QC per BQ 9000 Know how to apply the following skills: measuring liquid and volume | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 7 Perform oxidative stability test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know ASTM specs Know QC per BQ 9000 Know how to apply the following skills: measure liquid x volume x mass | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|--------------------------------|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 8 Perform moisture test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know ASTM specs Know QC per BQ 9000 Know how to apply the following skills: measure liquid x mass | | | | |

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| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 9 Perform visual inspection test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know BQ 9000 spec Know QC BQ 9000 spec Know how to apply the following skills: visual perception, and ability to compare sample against standard | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 10 Perform cold soak filtration test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know customer spec Know how to apply the following skills: measure liquid volumetric, read a stopwatch | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 11 Perform feedstock metals test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know company specs Know how to measure liquid mass | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 12 Perform feedstock moisture test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know company specs Know how to measure liquid mass | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|---|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 13 Perform feedstock fatty acid test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know company specs (in-house) Know how to measure liquid x mass | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|--|--|-----------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 14 Perform sodium methylate concentration/moisture test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know company specs Know how to measure liquid x mass | | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|--|---|--|-------|------------|--|
| CONFIDENTIAL | | | | | |
| 15 Perform methanol moisture test | Know core testing knowledge Know method/work instructions Know correct use of equipment Know correct PPE to use Know sampling requirements Know how/when to use MSDS Know spreadsheet software use Know all lab safety requirements Know actions to take when test fails (per company requirements) Know correct waste disposal method Know PM procedure Know fitness for duty requirements Know basic chemistry (college level of general chemistry) Know company specs (in-house) Know how to measure liquid x mass | | | | |
| 16 Perform process water testing | Know this procedure is being developed | | | | |
| 17 Perform waste H₂O testing | Knowledge to be developed ?? | | | | |
| A3 Train Others | | | | | |
| 1 Determine who needs training | Know to determine tasks the new employee will perform Know to determine the new tasks the current employee will perform Know to identify skill set or retraining necessary (continuing education) Know that updated/new work instructions will cue new training | Assessment tools, Human Resource department, Chemical Hygiene Plan, and Quality Management system. | | | Training assessment tool available through IBTI. |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|---|--|---|--------------|-------------------|---|
| CONFIDENTIAL | | | | | |
| 2 Determine what activities need to be trained | <p>Know to determine tasks the new employee will perform</p> <p>Know to determine the new tasks the current employee will perform</p> <p>Know that updated/new work instructions will cue new training</p> <p>Know what task the individual trainee will be able to perform after training</p> | Assessment tools, Chemical Hygiene Plan, and Quality Management system. | | | Training assessment tool available through IBTI. |
| 3 Direct trainee to read related documentation | <p>Know to ensure all training steps are being performed in correct sequence</p> <p>Know to provide a list of work instructions for the trainee to read</p> <p>Know to provide access to work instructions</p> <p>Know to verify trainee has read work instructions</p> <p>Know correct training documentation</p> | Chemical Hygiene Plan (CHP), and Quality Management System (QMS). | | | Documentation should be available in Lab through QMS, or CHP. |
| 4 Discuss trainees understanding of documentation | <p>Know correct training documentation</p> <p>Know to ensure all training steps are being performed in correct sequence</p> <p>Know to verify trainee has read work instructions</p> <p>Know to verify trainee's level of work instruction understanding</p> <p>Know to answer questions as necessary</p> <p>Know to verify that the "Discuss" in training has been documented</p> | Evaluation tool or checklist to determine level of understanding. | | | This information should be available through the CHP and QMS Program Directors. |
| 5 Ensure trainer is authorized to deliver training | <p>Know the skill set of the trainer meets the requirements of being a trainer</p> <p>Know to provide tools/resources/equipment necessary for effective training</p> | Documentation proving the credentials of trainer. | | | This information should be available through the CHP and QMS Program Directors. |

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| CONFIDENTIAL | | | | | |
| 6 Ensure trainee observes trainer perform activity | Know correct training documentation Know to ensure all training steps are being performed in correct sequence Know to provide tools/resources/equipment necessary for effective training Know to verify that procedure being trained has been demonstrated by trainer Know to answer questions as necessary Know to verify that the “Observe” step in training has been documented | Trainee Checklist | | | This information should be available through the CHP and QMS Program Directors. |
| 7 Ensure trainee performs activity for trainer to observe | Know correct training documentation Know to ensure all training steps are being performed in correct sequence Know to provide tools/resources/equipment necessary for effective training Know to answer questions as necessary Know the trained procedure has been done by trainee under supervision Know to ensure trainer observes trainee perform tasks being trained Know to verify that the “ Perform ” step in training has been documented | Trainee Checklist | | | This information should be available through the CHP and QMS Program Directors |
| 8 Ensure trainee practices activity with competently trained employee | Know correct training documentation Know to ensure all training steps are being performed in correct sequence Know to provide tools/resources/equipment necessary for effective training Know the trained procedure has been done by trainee under supervision Know to answer questions as necessary Know to verify that the “Practice” step in training has been documented | Trainee Checklist | | | |

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| CONFIDENTIAL | | | | | |
| 9 Ensure trainer verifies trainees competency/complete all training documentation | Know correct training documentation Know to ensure all training steps are being performed in correct sequence Know to verify trainee’s level of work instruction understanding Know to answer questions as necessary Know the trained procedure has been done by trainee under supervision Know to verify trainee’s ability to independently perform task Know to provide additional guidance when necessary Know to sign-off on correct documentation when training is complete | Trainee Checklist | | | |
| A4 Direct BQ9000 Lab-Related Compliance | | | | | |
| 1 Ensure full specification testing is performed | Know testing requirements for full spec testing per BQ9000 Know to determine where testing will be performed (in-house or out sourced) Know to initiate full specification testing per BQ9000 standards Know testing requirements for critical specifications testing per BQ9000 Know to verify that testing was performed per current BQ standard Know to verify that testing was completed Know to verify that test results are within limits stated thru BQ9000 program Know to verify test accuracy per BQ9000 standard | Laboratory Testing document, a Certificate of Analysis, per BQ 9000 | | | All tests included under ASTM D 6751 plus visual appearance test per BQ 9000. |

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| 2 Ensure critical specification testing is performed | Know testing requirements for critical specifications testing per BQ9000 Know to determine where testing will be performed (in-house or out sourced) Know to verify that testing was performed per current BQ standard Know to verify that testing was completed Know to verify that test results are within limits stated thru BQ9000 program | Laboratory Testing document, a Certificate of Analysis, per BQ 9000 | | | These tests are required for every production lot. |
| 3 Ensure monthly specification testing is performed | Know testing requirements for monthly specification testing per BQ9000 Know to determine where testing will be performed (in-house or out sourced) Know to verify that testing was performed per current BQ standard Know to verify that testing was completed Know to verify that test results are within limits stated thru BQ9000 program Know to verify test accuracy per BQ9000 standard | | | | |
| 4 Ensure most current ASTM revisions are being followed | Know BQ9000 requirements Know ASTM methods referenced in BQ9000 standards Know how to track applicable ASTM updates Know to update work instructions to reflect ASTM method revisions | Registered with ASTM and purchase updated revisions. | | | |

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| CONFIDENTIAL | | | | | |
| 5 Verify testing results per documented program | Know BQ9000 requirements Know to initiate independent laboratory duplicate sample testing Know to purchase and test standards Know to participate in an ASTM or equivalent biodiesel crosscheck program Know to verify test accuracy per BQ9000 standard | | | | |
| 6 Ensure storage tank inactivity testing is performed | Know BQ9000 requirements Know to verify that testing was performed per current BQ standard Know to verify that test results are within limits stated thru BQ9000 program Know to verify test accuracy per BQ9000 standard | | | | |
| 7 Ensure lot samples are being retained | Know BQ9000 requirements Know to ensure internal laboratories follow BQ9000 retainer requirements | | | | |
| 8 Ensure all lots meet tank homogeneity requirements | Know BQ9000 requirements Know testing requirements for full spec testing per BQ9000 Know testing requirements for critical specifications testing per BQ9000 | | | | |
| 9 Initiate non-conforming product procedures | Know BQ9000 requirements | | | | |
| A5 Ensure Valid Certificate of Analysis is Generated | | | | | |
| 1 Receive notification (lab personnel) that storage tank is properly sealed | Know to verify that tank seal has taken place | Quality Management System | | | |

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|---|---|---------------------------------|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 2 Ensure the storage tank is properly sampled | Know to identify what tank will be sampled Know to identify sample size required for testing Know BQ9000 requirements | | | | |
| 3 Ensure sample is tested per requirements | Know testing requirements per BQ9000 standards Know to determine where testing will be performed (in-house or out sourced) | | | | |
| 4 Ensure results are reported accurately | Know to verify that testing was performed per current BQ standard Know to verify test accuracy per BQ9000 standard | | | | |
| 5 Ensure results are within specification | Know to verify that testing was performed per current BQ standard Know to verify that test results are within limits stated thru BQ9000 program | | | | |
| 6 Ensure C of A form is distributed if results are within spec/distribute form | Know BQ9000 requirements | | | | |
| 7 Generate non-conforming product tracking report if results are out of spec | Know BQ9000 requirements Know to verify that test results are within limits stated thru BQ9000 program | | | | |
| A6 Provide Process Support | | | | | |
| 1 Act as a scientific resource/provide technical expertise | Know plant process Know relationship of testing to process Know to respond to all questions Know to remain current on all biodiesel process science updates Know to seek out information from peers Know to share new information with peers | Understanding of business model | | | |

CHAPTER A: EXECUTE LAB RESPONSIBILITIES

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|--|--|--|--------------|-------------------|-----------------------------|
| CONFIDENTIAL | | | | | |
| 2 Provide training as needed | Know to perform steps 1 through 9 in the Train Others section of this document | | | | |
| 3 Provide operations staff with feedback on plant operation performance based on lab data | Know specs/testing parameters on all lab tests Know audience/best method to present information Know to help ops interpret data (if necessary) | | | | |
| 4 Provide spot testing | Know what is out of spec/what changes have been made Know if operations has attempted to improve the process/provide necessary testing | | | | |
| 5 Compile and communicate all data from plant trials | Know Microsoft Excel Know how to use data reporting programs Know presentation methods | | | | |
| 6 Conduct “lab scale” research projects/report results | Know to follow R and D test protocol Know to complete all reports/deliver findings | | | | |
| A7 Manage Lab Activities | | | | | |
| 1 Schedule lab personnel | Know production schedule Know how to prioritize testing | Schedule of production testing needs | | | |
| 2 Ensure work instructions are being followed | Know work instructions Know to observe lab activities Know to check data/results Know physically recheck sample of outside trends/quality assurance standards | Use of laboratory test check standards | | | |
| 3 Ensure QC/PM protocols are followed/QC data is entered | Know to follow QualityControl/PreventativeMaintenance work instructions Know to fill out QC/PM forms | Use BQ 9000 QMS-Work Instructions- Chuck | | | |

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| 4 Initiate corrective action when QC standards are not in spec | Know to review QC/PM forms produced by others Know specs for QC standards Know who to call/what to do when QC standards are not in spec | QMS will define action when standards are not in spec | | | |
| 5 Act as the data gate keeper for the lab/ensure the data is interpreted correctly | Know normal variability Know how to report the data in a method that is easily understand | BQ 9000 documentation and training | | | |
| 6 Ensure instrumentation is operational | Know normal operating parameters | Use of internal check standards and cross | | | |
| 7 Order all supplies/consumables needed for lab activities | Know ordering process Know use rates Know to get best deal Know estimated shipping dates Know vendor reliability Know amounts/storage room needed | | | | |
| 8 Manage all data/records | Know to organize records that allow for easy retrieval of data | | | | |
| 9 Evaluate lab personnel performance | Know HR protocol for personnel evaluation | | | | |
| 10 Participate in lab personnel hiring | Know hiring requirements Know how to interview Know how to review resumés | Hiring procedures and training from HR department | | | |
| 11 Enforce policies set forth in the employee handbook | Know the employee handbook Know disciplinary policy | An employee handbook | | | |

CHAPTER B: EXECUTE QUALITY MANAGEMENT SYSTEMS

| DO | KNOW | EQUIPMENT USED | FREQ. | IMP. (1-7) | BEST LEARNING METHOD |
|-----------|-------------|-----------------------|--------------|-------------------|-----------------------------|
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CONFIDENTIAL

| B1 Support Management’s Administration of Quality Management Systems | | | | | |
|---|--|---|--|--|--|
| 1 Participate in weekly quality meetings | Know to Prepare agenda Know to take minutes Know to follow work instruction Know to offer input on relevant areas Know to accept assignments | As needed to comply with ASTM requirements and QMS. | | | |
| 2 Participate in quality management review meeting | Know to Prepare agenda Know to take minutes Know to follow work instruction Know to offer input on relevant areas Know to accept assignments | As needed to comply with ASTM requirements and QMS. | | | |
| 3 Participate in corrective action process | Know how to identify a deficiency or need for corrective action Know how to initiate corrective action Know how to implement corrective action process (if necessary) Know role of area supervisor as it pertains to corrective action Know role of review team member as it pertains to corrective action process | Corrective Action Process as defined in QMS-BQ 9000. | | | |
| 4 Participate in preventive action process | Know how to identify a deficiency or need for corrective action Know how to initiate corrective action Know how to implement corrective action process (if necessary) Know role of area supervisor as it pertains to preventive action Know role of review team member as it pertains to corrective action process | The Corrective Action being addressed The Preventative Action Process as defined in QMS-BQ 9000. | | | |

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| CONFIDENTIAL | | | | | |
| 5 Identify resource requirement | Know personnel available Know to identify testing sampling Know correct sample retention apparatus Know all testing equipment use Know to ensure sufficient IT resources are available | Resources needed as defined in QMS-BQ 9000 | | | |
| 6 Participate in non-conforming product process | Know to identify non-conforming product Know to isolate/contain Know to resolve non-conformance | Remediation Procedures per QMS-BQ9000 | | | |
| B2 Translate/Disseminate Quality Management System to Workforce | | | | | |
| 1 Follow BQ9000 Standards | Know what's in standards Know how to conform to standards Know to review/discuss standards | BQ 9000 manual | | | |
| 2 Remain current on BQ9000 Standards | Know when standards change Know how to determine if work instructions need to be changed Know to analyze standards updates | ASTM membership | | | |
| 3 Communicate intent of standards to workforce through work instructions | Know how to interpret intent of standards Know to ensure intent of standards is implemented through work instructions | QMS-Work Instructions | | | |
| 4 Assist supervisory personnel in applying BQ standards through work instructions | Know to serve as a consultant to area supervisors to ensure compliance with standards | QMS-Work Instructions | | | |
| B3 Act As Document Control Administrator | | | | | |
| 1 Create formal work instructions/documents from drafts | Know work instruction for creating a new work instruction Know how to use MS Word and Adobe | QMS-Work Instructions | | | Need MS Word and Adobe training |
| 2 Update existing work instructions/documents | Know work instruction for creating a new work instruction Know how to use MS Word and Adobe | QMS-Work Instructions and existing documents | | | |
| 3 Maintain document status list | Know to use the versions function of MS Word Know requirements of document status list | QMS -BQ9000 | | | |

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| CONFIDENTIAL | | | | | |
| 4 Distribute controlled copies to appropriate areas | Know what goes where | Controlled Distribution list per QMS | | | |
| 5 Destroy obsolete paper copies/archive electronic copies | Know what an obsolete document is Know archive location | Follow protocol as defined by QMS | | | |
| B4 Participate in Internal Audit Process | | | | | |
| 1 Implement lead auditor role | Know the work instructions | QMS-BQ 9000 Audit checklist | | | Internal auditor training available through IBTI |
| 2 Implement recording auditor role | Know the work instructions | QMS-BQ 9000 Audit checklist | | | |
| 3 Implement auditee role | Know the work instructions | QMS-BQ 9000 Audit checklist | | | |
| 4 Implement area supervisor role | Know the work instructions | QMS-BQ 9000 Audit checklist | | | |