

Terra Systems Core Competencies

Quality Control Lab on the Manufacturing Floor

Terra Systems owns and operates a manufacturing plant in Claymont, Delaware, which has a quality control lab on the shop floor.

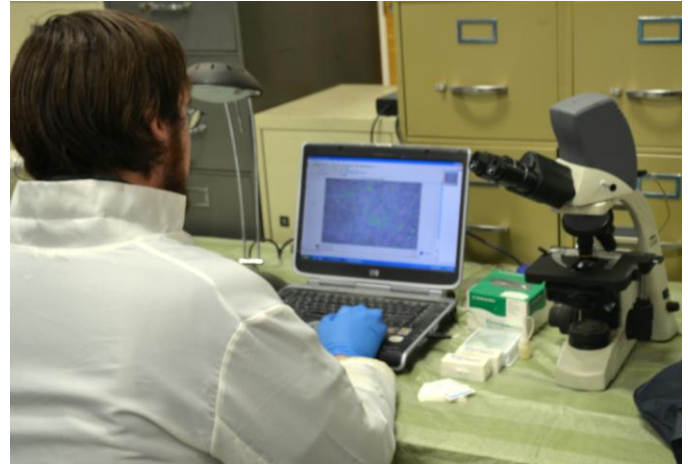
Our full time manufacturing team is a key differentiator between Terra Systems and other U.S. suppliers and provides the following customer benefits:

1. Product quality is one of key factors in our individual quarterly bonus program.
2. The manufacturing engineer and the production supervisor are responsible for maintaining accurate logs for each batch produced and both are required to sign off on the QA/QC Sheet for every batch.
3. The manufacturing engineer is responsible for sampling each batch and providing the sample to the QA/QC lab for droplet size analysis and pH determination.

Once a batch is complete but before it is transferred to bulk tankers, 275-gallon totes, 55-gallon drums or 5-gallon buckets a sample is pulled by the manufacturing engineer.



A Digital Microscope is Connected to a Computer with Droplet Size Calculation Software



Example of the Manufacturing Quality Control Checklist Signed by the Manufacturing Engineer and Checked by the Manufacturing Supervisor, which includes mean droplet size, pH and the amount of the ingredients.

Manufacturing Quality Control Checklist

I. Product Information

Parameter	Value
Product manufactured	60% SRS®-SD
Date manufactured	April 23rd, 2014
Lot#	D23N2
Customer packaging	275 Gallon IBC Totes


II. Ingredients Information

Ingredient	Lot#	Volume/Weight	Manufacturing Engineer	Date	Manufacturing Supervisor	Date
Oil	792731	550 gallons	Erich Hauptmann	4/23/14	Richard Raymond	4/23/14
Sodium Lactate	M1401004	37 gallons	Erich Hauptmann	4/23/14	Richard Raymond	4/23/14
Emulsifiers	G256538	65 gallons	Erich Hauptmann	4/23/14	Richard Raymond	4/23/14
Nutrients	Mixed Lot#s	24 pounds	Erich Hauptmann	4/23/14	Richard Raymond	4/23/14
Vitamin B ₁₂	83124664AG	86 grams	Erich Hauptmann	4/23/14	Richard Raymond	4/23/14
Water	NA	270 gallons	Erich Hauptmann	4/23/14	Richard Raymond	4/23/14

III. Physical Parameters

Parameter	Value
Mean Droplet Size	0.54
pH	7.2


Production Engineer
4/23/14
Date


Production Supervisor
4/23/14
Date

To discuss a challenging site call or email Michael Free at mfree@terrasystems.net or 484-889-2214.