



GreenLight™ Model 960 Product Specifications

PRODUCT NAME

GreenLight™ Model 960

ASSAY PRINCIPLE

GreenLight™ Model 960, is a high-throughput test that provides total aerobic viable counts (TVCs, APCs) for food samples by measuring bacterial oxygen consumption and equating oxygen consumption to microbial load. As bacteria in the test sample grow and respire they deplete O₂ which is detected as an increase in the **GreenLight™** probe signal above the baseline level. The time required to reach this increase in signal is used to calculate the CFU/g of the original food sample, based on a pre-determined calibration.

ASSAY FORMAT

The assay is a simple 'mix and measure' test. Homogenates of food samples are prepared as for traditional TVC testing on agar plates (ISO:4833:2003 ref method), dispensed in the wells of a standard 96-well plate together with the GreenLight™ oxygen-sensing probe, covered with mineral oil to exclude ambient O₂ and measured on a fluorescence reader at 30°C. Ninety-six food samples including controls (test media/buffer plus GreenLight™ probe) are read simultaneously, with samples prepared and measured within hours. Total time to prepare a plate for analysis, including sample preparation is under 1 hour.

GreenLight™ Model 960, AOAC RI PTM certified assay enables the detection and enumeration of total viable counts (TVCs, APCs) within 12 hours at contamination levels, low (10⁴ CFU/g) to high (10⁸ CFU/g) from the selected raw meats; ground beef, lamb, pork, chicken, turkey.

PRODUCT DESCRIPTION

The GreenLight™ oxygen probe is supplied as a dry, stable, soluble reagent, which is reconstituted for use in 1 mL of sterile full buffered peptone water (BPW) and then diluted to 10 mL with the same medium. One vial of GreenLight™ probe is used per one 96-well plate (dispensed 100 µL per well). The GreenLight™ assay kit is supplied as 1 vial GreenLight™ probe; 1 sterile-packed standard 96-Well plate with lid; 1 plastic tube for probe dilution; 1 sheet of adhesive film; and one vial with 15 mL of oil.

INTENDED USE

GreenLight™ Model 960, AOAC RI PTM certified assay is suitable for process control and Quality Control (QC) analytical laboratories, in raw meat processing facilities. The test provides results within hours including sample preparation and incubation times, allowing rapid, easy and sensitive same-day enumeration of bacterial load (CFU/g) without the need to conduct multiple sample dilutions and lengthy, tedious counts on agar.



Specifications

Time to result including sample prep 0.5 – 12hrs	AOAC PTM Certification number 061002 Approved for raw meats + poultry Other approvals pending
TVC Range (for raw meat + poultry) 10^3 to 10^8 CFU/g	Instrument type Fluorescence plate reader
Typical set up time 15 – 60 minutes	Optimal optical settings Excitation – 380 nm Emission – 650nm
Test Modes Pass/Fail or Quantitative / Semi-Quantitative	Options Stacker and robotics for increased sample throughput and labor reduction
Assay Sizes Runs on standard 96 or 384 well microwell plates	Other equipment & materials required but not provided <ul style="list-style-type: none"> • Balance – capable of weighing 10-1000grams, of meat samples • Laptop –instrument control • Stomacher machine (stomacher 400 Circulator, Seward or equivalent) + Stomacher bags with mess filter preferred • Incubator – capable of maintaining 30°C +/- 0.5°C (<i>2-point/multipoint mode</i> requirement only) • Pipettes: Ditriman repeater pipette, P1000, P5000, P200 ideal if available • Pipette tips (sterile) • BPW stock, 1L
Test Temperature Adjustable as required: standard 30°C	
Incubation Temperature Adjustable as required	
Typical testable products Raw meats, chicken, turkey, beef, pork, lamb, sea foods, vegetables, dairy and final food products	



GreenLight™ Materials Safety Data Sheet

UNIT SIZE AND COMPOSITION

1 vial of GreenLight™ oxygen probe per product. It is a dry, water-soluble material comprising a phosphorescent dye conjugated to an inert biopolymer.

GreenLight™ PROBE MANUFACTURER

Luxcel Biosciences Ltd.
BioInnovation Centre,
UCC,
Cork, Ireland.

Tel: +353 (0)21 490 14 47
Fax: +353 (0)21 481 18 01
Email: info@luxcel.com
Web: www.luxcel.com

GreenLight™ HANDLING AND STORAGE

Dry material: store at +4°C (six months expiry date).

Reconstituted product (aqueous stock only): store at -20°C.

Diluted probe stock: use on the same day.

Protect products from prolonged exposure to light, may be exposed to light for short time periods.

This material is not considered as hazardous, it is not present above 1%, nor is it a carcinogen above 0.1% as defined in 29 CFR 1910.1200, the OSHA Hazard Communication Standard. Therefore, a Material Data Sheet is not required. We recommend treating all chemicals with caution. *This material is sold for research purposes only and is not required to appear in TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. It must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. The above information is correct to the best of our knowledge. Users should make independent decisions regarding completeness of the information based on all sources available. Luxcel Biosciences shall not be liable for any damage resulting from handling or contact with the above product*