



DHI LAB PRODUCTS

DHI ¹⁴C AMPOULES

Ready to use for measuring phytoplankton primary production

DHI is a producer of ampoules containing an aqueous solution of $\text{NaH}^{14}\text{CO}_3$ which are 'ready-to-use' for measuring the phytoplankton primary production. The sterile ampoules are distributed with a certificate specifying the activity.

PHYTOPLANKTON PRIMARY PRODUCTION

Primary production is a fundamental ecological variable. It is a measure of the primary energy input to the aquatic environment because of its significance to indicate and characterize the condition of a particular water body. Primary production can be measured conveniently using the so-called ¹⁴C method. By adding a known amount of the radioactive isotope ¹⁴C to a water sample, the algae will take up ¹⁴C along with "native" ¹²C present in water. After a short incubation period (hours), the ¹⁴C incorporated into the algae cells can be measured by liquid scintillation counting and the total carbon uptake can be determined.

The method is very sensitive and the primary production is widely used in assessing water quality, for instance in relation to eutrophication in water environments. Primary production is also used as a vital parameter when modelling how the changes in nutrient loads affect the environment.

The international Agency for ¹⁴C Determination is a part of DHI with many years' experience in primary production measurements.



Carbon 14 Centralen
The International Agency
for ¹⁴C Determination

LIQUID SCINTILLATION COUNTING

Samples such as dry filters with radioactive material, e.g. from measurements of particulate primary production, as well as water and sediment samples can be shipped to the DHI laboratories for liquid scintillation counting. DHI is accredited by DANAK (The Danish Accreditation and Metrology Fund) to carry out measurements of ¹⁴C radioactivity in samples by liquid scintillation counting.

DHI ¹⁴C AMPOULES

BENEFITS

- ¹⁴C solution in ampoules or sealed vials
- Ready-to-use
- Free of toxic substances
- Molarity corresponding to natural levels



FEATURES

- Calibrated for specific activity
- Delivered with a Certificate of Analysis
- Stock solutions of 4, 10 and 20 $\mu\text{Ci mL}^{-1}$
- Special volumes and activities on request



DHI LAB Products

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