

Cell-Hi All-in-One Nutrient

MAKING **ALGAE** EASY

F2P

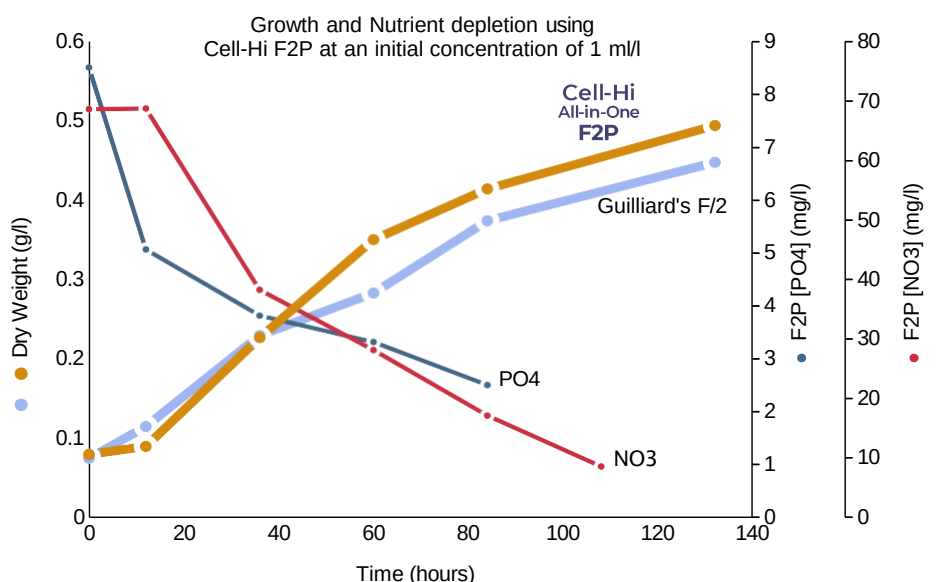
Varicon Aqua has more than 20 years' experience providing high quality engineering and consumable products into the algal biotechnology sector. This experience has led to the development of solutions appropriate for both **laboratory and industrial** settings.

Our Cell-Hi All-in-One nutrient range provides a simple and **highly economic** approach to algal nutrition at scale.

Each of the Cell-Hi All-in-One product lines is based on tried and tested industry standard formulations and available premixed as a **100% soluble** powder or as a concentrated liquid.

This unique All-in-One approach allows us to incorporate all the nutritional requirements in one single use product.

Cell-Hi F2P is a Guillard F/2 saltwater specific 100% soluble All-in-One powder used extensively in marine aquaculture. Cell-Hi F2P All-in-One contains all the essential macro-nutrients, micro-nutrients and vitamins for microalgal growth. It is the only fully soluble **All-in-One** product based on Guillard F/2 available on the market; with identical N, P, trace element and vitamin content. Cell-Hi F2P is a highly concentrated nutrient premix where 1 kg makes 10,000 litres of culture medium at F/2 strength. F/2 was designed for the optimal growth of coastal marine algae and is ideal for use in marine aquaculture applications. In house test results show **exceptional growth and fast uptake of both Nitrate and Phosphate**.



Nutrient Composition.

Macro-nutrients (element)	Average Inclusion (% of Total Mass)
Biologically available Nitrogen (N)	14.00
Phosphorous (P)	1.27
Potassium (K)	2.95

Macro-nutrients (element)	Average Inclusion (% of Total Mass)
Iron (Fe)	0.80
Zinc (Zn)	0.0057
Copper (Cu)	0.0036
Cobalt (Co)	0.0028
Manganese (Mn)	0.057
Molybdenum (Mo)	0.0023
Boron (B)	0
Calcium (Ca)	0
Magnesium (Mg)	0
Chlorine (Cl)	2.39
Sulphur (S)	0.016

Vitamins	Grams Per kg
Vitamin B1 (Thiamine)	1.13
Vitamin B7 (Biotin)	0.0057
Vitamin B12 (Cobalamin)	0.0057

Cell-Hi All-in-One



Soluble Nutrients for

Marine Microalgae

Directions for use.

- Batch Cultivation:** F2P is recommended for use at concentrations between 0.1-1 g/L. The ideal nutrient concentration will depend on the expected/observed final yields.
- Continuous Cultivation:** F2P is typically included at a rate of 0.1 g/l for continuous production (this concentration gives a 1x Guillard F/2).
- Storage as a liquid:** In order to ensure good mixing of micronutrients when using at small scale and for ease of use a large scale, it is recommended that a high concentrate stock is produced. For F2P this stock should be formulated at 1 kg/10 L and used at 1 ml/L for continuous production.
- Sterilisation:** To ensure sterilisation diluted media can be passed through a 0.2 micron syringe. Autoclaving of diluted media is also possible however, this may result in some minor changes to chemical composition.
- Diatoms:** Silicates are not present in this media. For diatom production, 30 mg/l of metasilicate should thereby be added to the growth media.