



A S Harrison & Co

people...product...performance

***You want it your way,
Naturally***



You want it your way, Naturally

- Have you ever wanted just the right combination of extracts... in just the right solvent... with just the right preservative... or no preservative at all?



- Well now you can!

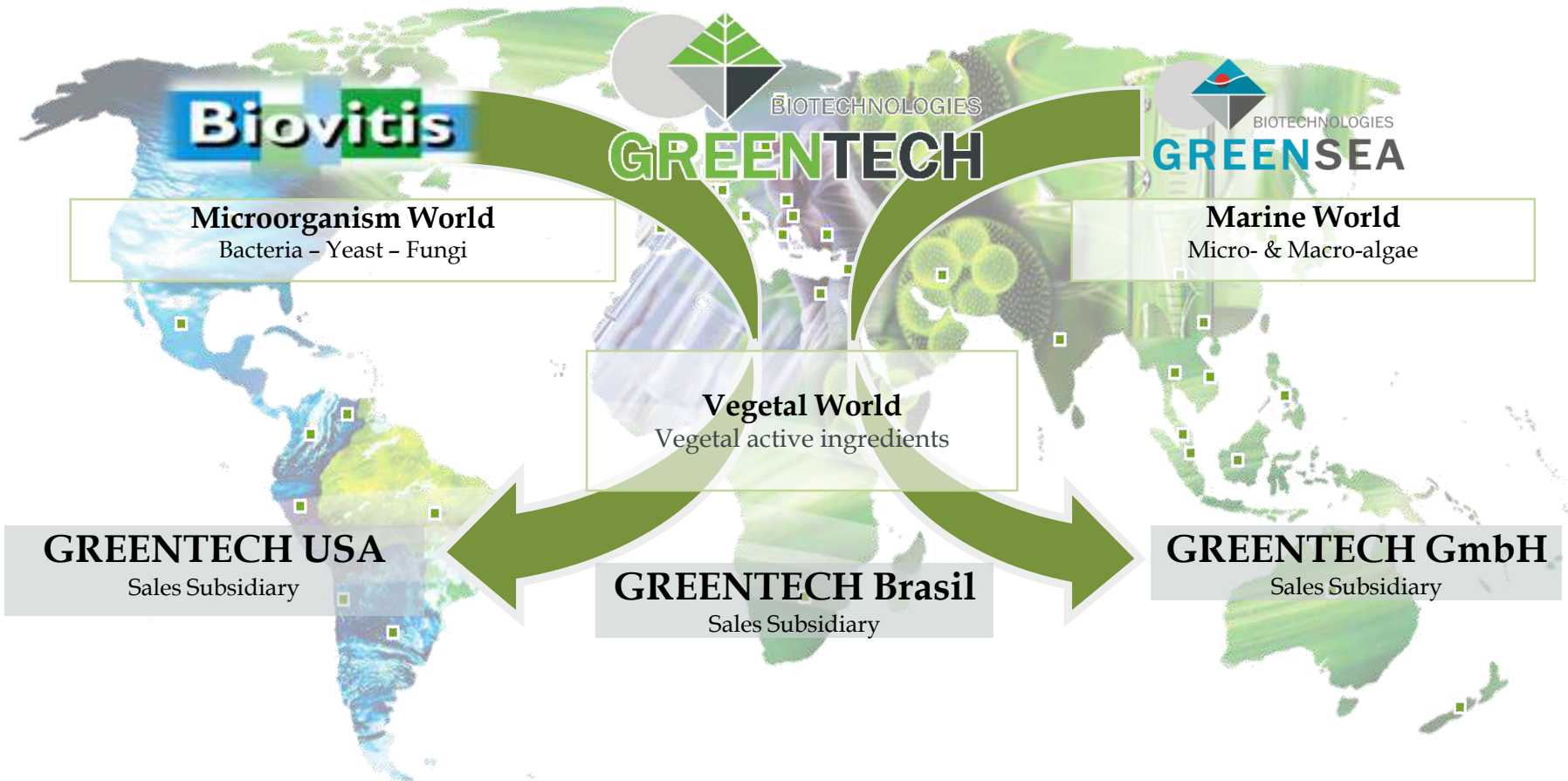


**WITH GREENTECH &
A S Harrison & Co**

At the crossroad of the worlds

GREENTECH Group

More than 20 years dedicated to active ingredients





A S Harrison & Co

people...product...performance

Over Ninety years of Service and Supply

A S Harrison & Co are a knowledge-based agency and distribution business importing and supplying a unique portfolio of specialty chemical additives. We utilise our extensive warehousing and logistics network to supply and service our customers.

A S Harrison & Co, part of The Harrison Group began in 1923, when Arthur Stanley Harrison, the founder, specialised in the distribution of raw materials for the rubber industry.

Since then this family business has expanded to the distribution, manufacturing and exporting of a wide range of specialised materials servicing the cosmetic, petroleum and food industries.



GREENTECH

Expertise in VEG

Created in 1992

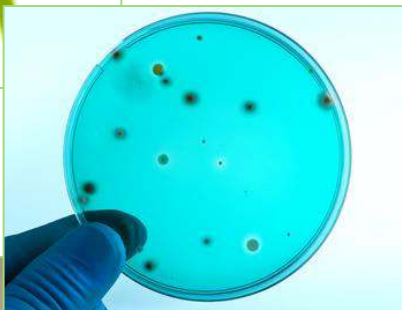
APPLICATIONS :

- **Cosmetic - Nutraceutical - Pharmaceutical**

Plant = 3,000 m²

- **100 t/month - 1 200 t/year**
- **80 products/month**

Future expansion :Logistic & Production



BIOVITIS

tise in **FERMENTATION** process

Plant = 2,500 m²
Future expansion : Production

Created in 2000

APPLICATIONS :

- **Agribusiness** : Maturing flora and aromatization
- **Agronomy** : Biofertilizers and biocontrol agents
- **Environments** : Treatment of effluents

PROMISING MARKETS :

Cosmetic - Nutraceutical - Pharmaceutical



GREENSEA

Expertise in MARINE Field



Plant = 1,500 m²

Future expansion : Production & Stock

Created in 1988

Marine world: micro and macro-algae and marine coastal plants

APPLICATIONS :

- **Aquaculture** : nutritional ingredients for fish farms and nurseries
- **Immunodiagnostic** : fluorescent pigments
- **Cosmetic - Nutraceutical**



PRODUCTION TECHNOLOGY

CLASSICAL TECHNIQUES

- Extraction => Maceration, decoction, percolation, infusion...
- Pressing
- Clarification (press-filter, sheet filters)
- Filtration / Ultra-filtration
- Sterilisation



SPECIFIC TECHNIQUES

- Concentration => Specific Titration
- Precipitation
- Liquid-liquid decantation
- Spray-drying (10 kg/h)
- Freeze-drying (Trapping capacity = 60 kg)
- Washing and powder drying
- Esterification

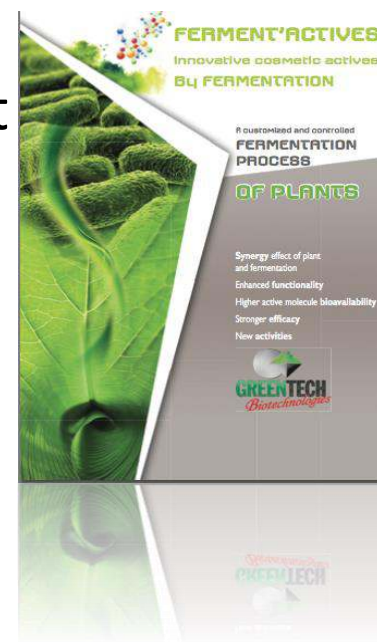
PRODUCTION TECHNOLOGY

FERMENT'ACTIVES

- potentiates biological activity
- optimizes active compound content

CRYOEXTRACTION

- preserves plant biological integrity
- preserves active principles integrity
- GREENTECH patent
- a stock of 7 m³ in liquid nitrogen



FERMENTATION 1.5 l -> 800 l BIOTECHNOLOGIES & GREEN CHEMISTRY

- Tubular photobioreactors (continual production) = 10 m³
- Annular photobioreactors (batches) = 2m³
- Photoreactors (batches) = 40 m³



GREENTECH LABORATORIES

•DEVELOPMENT

- New Ingredients
- Samples



•CHEMICAL

- R&D Development

•APPLICATIONS

- Formula guide
- Customer Support

•ANALYTIC CONTROL

- Active compound
- Tracer of Quality
- Specific compounds

•QUALITY CONTROL

- RMs
- Final Ingredients



•MICROBIOLOGICAL

- R&D Development
- Quality Control

The GREENTECH Extraction Guide

- What active or actives are you after?
- Let's say you are looking for a natural cell booster, that slows down the ageing process.

GREENTECH Sourcing

Specific Access to the biodiversity

COMMITMENT to SUSTAINABILITY & SHARING



RESPONSIBLE SUPPLY CHAIN

Protection of the biodiversity - Protection of people's health
Respect of the environment and ecosystem

HISTORICAL PARTNERSHIP

NETWORKS

GREENTECH Portfolio

More than 3000 Ingredients



ACTIVE INGREDIENTS : Liquid, Paste, Solid

- **Titrated in active molecules / purified molecules**
- **Quality et traceability** : tracer of activity and identification
- **New technology** : Soft extracts (+ de 50% of DM)



INGREDIENTS :

- **SOFT BUTTERS, OILS**
- **EXTRACTS** : on different supports for several formulations
- **SPECIFIC WATERS** : seawaters, fresh waters ...
- **SCRUBS**
- **OTHERS** : Distillates, essential oils...

⇒ For history Marketing of the plant, the origin

ESTABLISHMENT OF LONG-TERM'S CHAINS & PARTNERSHIP



The **GREENTECH** Extraction Guide

- For a natural cell booster that slows down the ageing process.
- **We would suggest REVERSKIN®**



The GREENTECH Extraction Guide

- What solvent are you wanting to use and what preservative, if any?



Extract (s)	Solvent	Preservative	Comments
REVERSKIN® ecdysterone (a phytosterol)	Hydroglycolic Water + Propylene glycol 50% + 50%, or Water + Butylene glycol 50% + 50%	No preservative	Not allowed in organic products
	Biogreen Water + glycerine 75% + 25%	Potassium Sorbate + Sodium Benzoate + Citric Acid or other	Organic or allowed in organic products
Hydrosoluble	Hydroglycerined 80 Water + glycerine 20% + 80%	No preservative	
	Aqueous - Water only	Potassium Sorbate + Sodium Benzoate + Citric Acid or other	
	Nat Water + Propandoil	No preservative	
Liposoluble	Oil extract in miglyol (caprilic/capric triglycerides)	No preservative	Allowed in Organic products
	Oils	No preservative	Organic or allowed in organic products
	Oil extract in Sunflower Oil, or Sweet Almond Oil etc.	No preservative	



The **GREENTECH** Extraction Guide

- So for **REVERSKIN[®]**, we have chosen;
 - Natural, Propandoil + Water, and
 - No preservative
-
- *Now what to you want your way?,
Naturally*