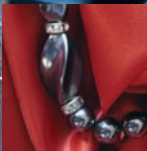


Hema'Tite™



| mineral matters

LIBiol
Extracting Actives from Nature

mineral

Stone is an exceptional receptor.

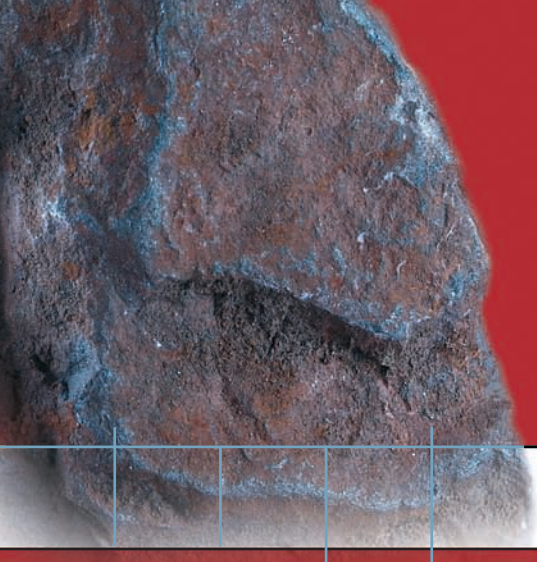
matters



LIBiol 36, chemin de Genas - BP 603 - F-69804 SAINT-PRIEST Cedex - E-mail: infocos@gattefosse.com
LIBiol is a company of GATTEFOSSÉ Group



GATTEFOSSÉ



Precious stones, brilliant crystals; rare or more widespread, gems catch the eye; they are irresistibly attractive.

The **iron rose**, the stone of regeneration

*History tells us that
Hematite
was first described by Pliny
who named it in reference
to the red colour
of its powder, the
colour of blood.*

*Hematite is found in
effusive magma rock, in
hydrothermal seams... and
even on planet Mars!*

These stones fascinate, by a blend of mystery and perfection. One look at them is enough to guess their hidden properties.

LIBIOL has rediscovered Hematite, a bewitching stone and new jewel in the Mineral Matters range.

Usually massive, opaque and metal-coloured, Hematite is an iron oxide (Fe_2O_3), also present in short, black crystals with a sometimes iridescent surface. Arranged in flower petals, the crystal is called the "**iron rose**".

A very tangible stone, Hematite develops our listening capacity. Legend has it that owing to its red colour, the Ancients believed that Hematite protected against injury in battle.

But the main properties of Hematite concern its **regenerating** capacity.

It is used in circulatory problems, helps to reabsorb bruises and favours the **healing** of wounds.



A new reference, resulting from its unique extraction technology, LIBiol presents Hema'Tite™, an iron-rich extract which, like a jewel, will restore the radiance and tone of the skin.

An iron... constitution...

Iron is a trace element, essential for the good health of the organism.

Iron allows the cells to breathe. It is found in haemoglobin in the red blood cells and in the cell respiratory chain (cytochrome chain).

Iron intervenes in several enzymatic reactions right inside the cells.

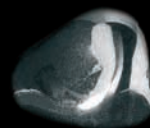
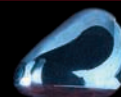
It helps the smooth running of iron co-factor catalases, enzymes that help the cells to fight free radicals.

It participates in the metabolic activity of the cell nucleus, DNA synthesis and in reactions of the energetic metabolism.

LIBiol has taken an interest in iron for its role in collagen synthesis and has created Hema'Tite™.

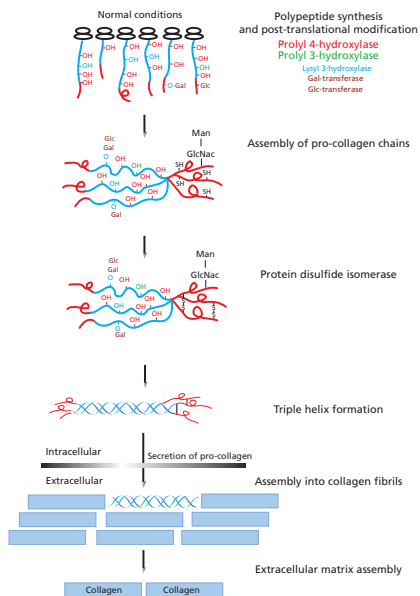
*Like the blood of the earth, **Hema'Tite™** has a powerful red colour.*

*Stone extract rich in iron, **Hema'Tite™** brings to the skin all the power of the earth to **reinforce the skin tissue.***



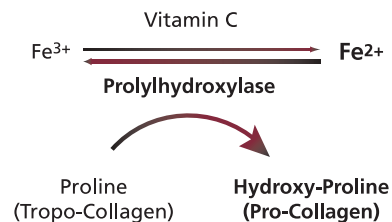
Collagen is naturally produced by the body. It is one of the main components of the skin, synthesised by specialised cells: fibroblasts.

Collagen: the skin's support



Collagen has a dual biological role. Firstly, with elastin, proteoglycans and glycoproteins, it forms the Extracellular Matrix that binds together tissues and organs. Secondly, the collagen gives the different tissues, and the skin in particular, their strength, suppleness and elasticity.

Collagen synthesis from precursors requires several steps of maturation including a step of proline hydroxylation into hydroxyproline in the presence of **vitamin C and iron**, thanks to **prolylhydroxylase**.



Hema'Tite™ has a stimulating effect that **helps reactivate pro-collagen synthesis** and restore the tone and strength of mature skin.

This post-translational modification helps to **stabilise** the pro-collagen molecule and allows its **effective excretion** in the inter-cellular space.

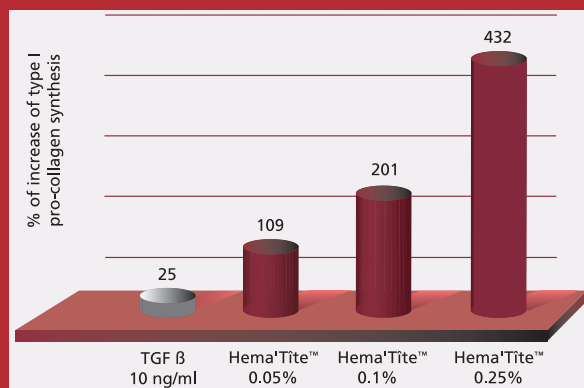
Without this reaction, or in the case of vitamin C or iron deficiency, the pro-collagen produced has an abnormal structure and remains blocked within the cells.

Substantiation

Although there are various molecules capable of stimulating collagen synthesis, Vitamin C is one of the most frequently used. With **Hema'Tite™**, a complex rich in natural iron, LIBiol proposes an innovative and effective alternative.

Hema'Tite™ the anti-aging jewel

Hema'Tite™ was first tested on human fibroblasts to evaluate its capacity to increase synthesis of type I pro-collagen.



This initial *in vitro* test shows that **Hema'Tite™** significantly increases synthesis of type I pro-collagen within the cultured human dermis cells.

Its dose-dependent action is 4 to 16 times more powerful than **TGF β**, a benchmark growth factor that stimulates pro-collagen synthesis.

By studying its means of action, we have been able to demonstrate that **Hema'Tite™** acts directly on one of the key enzymes in pro-collagen synthesis: **polyhydroxylase**.

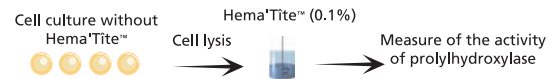
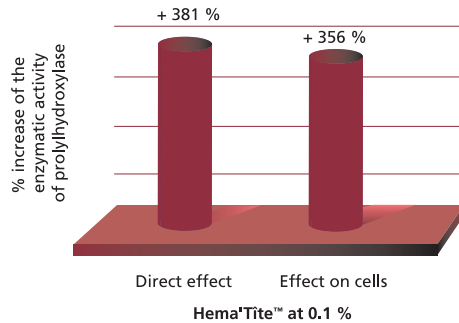
*A genuine regeneration agent, **Hema'Tite™** will boost synthesis of the supporting tissue of the dermis.*

***Hema'Tite™** thus helps the skin to restore its density, and regain its firmness from within.*

Two complementary studies demonstrate the action mechanism of **Hema'Tite™**. Iron input stimulates the activity of the prolylhydroxylase enzyme, thus increasing pro-collagen synthesis.

Stimulation of Prolylhydroxylase

An initial direct test, on a fibroblast lysat containing prolylhydroxylase, shows that **Hema'Tite™** acts effectively on this specific enzyme.



This study proves that **Hema'Tite™**, used *in vitro* at 0.1%, increases prolylhydroxylase activity by **381%**.

Secondly, we checked if **Hema'Tite™** was capable of penetrating into the cells and inducing an identical action to the one already observed.



There is an identical action with an increase of over **+356%** in enzymatic activity.

Hema'Tite™ is therefore capable of acting right inside the cells, to stimulate enzymatic activity of prolylhydroxylase, thus **increasing fibroblast production of pro-collagen**.

Cosmetic jewels, alluring skincare, mineral attraction, precious and innovative active ingredients act as muses for all whims and fuel fantasies of eternal youth and supreme beauty...



Hema'Tite™ the beauty talisman

With its stimulating action on collagen synthesis, **Hema'Tite™** is aimed at top-of-the-range rejuvenating skincare products. A genuine jewel of a treatment, **Hema'Tite™**, through its renewing power, slows down the skin's ageing process.

This innovative active ingredient helps to **optimise production** of good quality and functional collagen, helping **fill wrinkles** in-depth, for a plumping up effect on the skin.

An original ingredient, found within the very heart of Mother Nature, **Hema'Tite™** restores the skin's texture and tone. It is particularly recommended for smoothing or renewing treatments, bringing the energy of the earth to the protection of youthfulness.

*"Spa, Luxury and Mineral" being key concepts in the beauty world, **Stone Extracts** are ideally used in **skincare formula**.*

*Formulators, the jewellers of youth, are already tailor cutting this **precious material** to create refined products and tomorrow's cosmetic treasures.*

Precious Day Cream MM 8258/A

Ingredients	INCI designation	% W/W	Fonction
Phase I			
EMULIUM™ DELTA (1)	CETYL ALCOHOL (AND) GLYCERYL STEARATE (AND) PEG-75 STEARATE (AND) CETETH-20 (AND) STEARATE-20	4.00	O/W emulsifier
CETEARYL ALCOHOL	CETEARYL ALCOHOL	2.00	Thickener
DPPG (1)	PROPYLENE GLYCOL DIPELARGONATE	5.00	Emollient
DOW CORNING 200 FLUID 100 CS (2)	DIMETHICONE	2.00	Feeling agent
LABRAFAC™ CC (1)	CAPRYLIC/CAPRIC TRIGLYCERIDE	3.00	Emollient
VITAMIN E ACETATE (3)	TOCOPHERYL ACETATE	0.50	F.R. scavenger
PHENONIP (4)	PHENOXYETHANOL (AND) METHYLPARABEN (AND) BUTYLPARABEN (AND) ETHYLPARABEN (AND) PROPYLPARABEN	0.70	Preservative
Phase II			
GLYCERIN	GLYCERIN	2.00	Moisturizer
DEMINERALIZED WATER	WATER	76.45	
CARBOPOL ULTREZ 20 (5)	ACRYLATE/C10-30 ALKYL ACRYLATE CROSSPOLYMER	0.15	Gelling agent
RHODICARE S (6)	XANTAN GUM	0.30	Gelling agent
Phase III			
SODIUM HYDROXIDE (10% SOL.)	SODIUM HYDROXIDE	0.30	Neutralizing agent
Phase IV			
BUTYLENE GLYCOL	BUTYLENE GLYCOL	2.00	Moisturizer
CHLORPHENESIN	CHLORPHENESIN	0.20	Preservative
Phase V			
HEMA'TITE™ (7)	HEMATITE EXTRACT (IN PROGRESS)	1.00	Mineral active
F.D.C. RED N°4 W 084 (0.1% SOL.) (8)	CI 14700	0.20	Dye
Phase VI			
PERFUME FRAIS 4164 (9)		0.20	Perfume
		100.00	

Appearance: Pale pink and bright cream

Manufacturing Process

Sprinkle Carbopol over water + Glycerin of II, then disperse Rhodicare under mixing. Leave to stand.

Under stirring, add I heated to 75°C to II heated to 75°C.

Maintain under rapid mixing (Rotor Stator 3000 rpm) for 5-10 min.

Add III.

Cool under normal stirring.

At about 50°C, add IV.

At about 35°C, add V and VI.

Complete cooling.

(1) Gattefossé / (2) Dow Corning / (3) DSM Nutritional Products / (4) Nipa / (5) Noveon / (6) Rhodia / (7) LIBiol / (8) LCW / (9) M.L.W

The information contained in this data sheet is based on the state of our knowledge on the product in question, at the date shown. It is given in good faith. The attention of users is also drawn to the risks which might be incurred when a product is used for purposes other than those for which it is designed. It in no way exempts the user from knowing and applying all the texts regulating his activity. He shall take sole responsibility for the precautions associated with the use he makes of the product.



Hema'Tîte™ Code 5758

PRODUCT CHARACTERISTICS:

> Physical

Form	liquid
Color	brown red
Odor	metallic
Solubility	soluble in water and alcohol 95°
pH	3.5 to 6.5
Dry matter	5.5 to 7.5%
Total mineral content	1.5 to 4.0%
Total iron content	0.2 to 1.2 g/100 g

> Chemical

Preservative	phenoxyethanol (0.4%) sorbic acid (0.1%) packed under nitrogen
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> Bacteriological

Total aerobic organisms	< 100 germs/g
Pathogenic organisms	none

> Toxicological

Local toxicity on the skin	not classified
Local toxicity on the eyes	not classified
Phototoxicity	without phototoxic effect
Sensitization	without allergic effect
Photosensitization	without photoallergic effect
Systemic toxicity	not classified
Mutagenic effect (Ames test)	without mutagenic effect

> Suggested level of use

Between 0.5 and 2%

> Storage conditions

At room temperature and away from light and air

> Re-evaluation date

1 year from manufacturing date

INCI EU

HEMATITE

(in progress)

INCI USA

HEMATITE EXTRACT

(in progress)

EINECS

215-275-4

CAS

1317-60-8

Japan/Australia

Approved for
cosmetic use

Safety Data Sheet

According to 2001/58/CE
Date of issue: October 2005

1. Identification

Commercial name Hema'Tite™
Code 5758

Supplier/Manufacturer
LIBiol SA 36 chemin de Genas BP 603 SAINT PRIEST Cedex
(France) Tel.: +33 (0) 4.72 22 98 00

Emergency tel. n° not applicable

2. Information on components

Dangerous substances or components none

3. Identification of hazards harmless product

4. First aid wash with water

5. Fire preventions measures

Extinguishing methods not inflammable

Special fire or explosion risks no special measures
required

6. Measures to be taken in the event of accidental dispersion

Personal precautions not necessary

Precautions for environmental
protection not necessary

Clearing up methods wash with water

7. Handling and storage

Handling:

Precautions to be taken none

Storage at room temperature
and away from light
and air

8. Exposure control/personal protection

Personal protective equipment not necessary

9. Physical and chemical properties

Appearance liquid
Color brown red
pH 3.5 to 6.5
Solubility
- In water soluble
- In oils insoluble
Density no data
Flash point in closed cup > 150°C
Explosion no data

10. Stability and reactivity

Stability Store at room temperature in the original
container away from light and air
Stable under these storage conditions.

Materials to avoid not applicable

Dangerous decomposition products not applicable

11. Toxicological information

Toxicity by ingestion DL50 > 2000 mg/kg

Cutaneous tolerance not classified according
to directive 67/548/ecc

Ocular tolerance not classified according
to directive 67/548/ecc

12. Ecological information

no data

13. Considerations regarding disposal

not necessary

14. Informations regarding transport

not subject to any transport rules

15. Statutory information

not applicable

16. Other information

Use External cosmetic use

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