



SIMPSSN™ EHT

(UV-B Filter)

**Oil Soluble UV-B Filter and Absorber Active
Ingredient for
Cosmetic and Pharmaceutical Topical
Formulations**

[INCI Name: **Ethylhexyl Triazone (EHT)**]

**Product Instruction Sheet
(PIS)**



SIMP GROUP

Shanghai SIMP Biotechnology Co., Ltd.

Web site: www.simpbiotech.com

E-mail: simpbiotech@simpbiotech.com

Shanghai Headquarters	Tel: 86-21-5990 7606, 5990 7607	Fax: 86-21-5990 7602
Guangzhou Office	Tel: 86-20-6684 4588	Fax: 86-20-6684 4588
Beijing Office	Tel: 86-10-6447 5821, 6447 5822, 6447 5823	Fax: 86-10-6447 5819

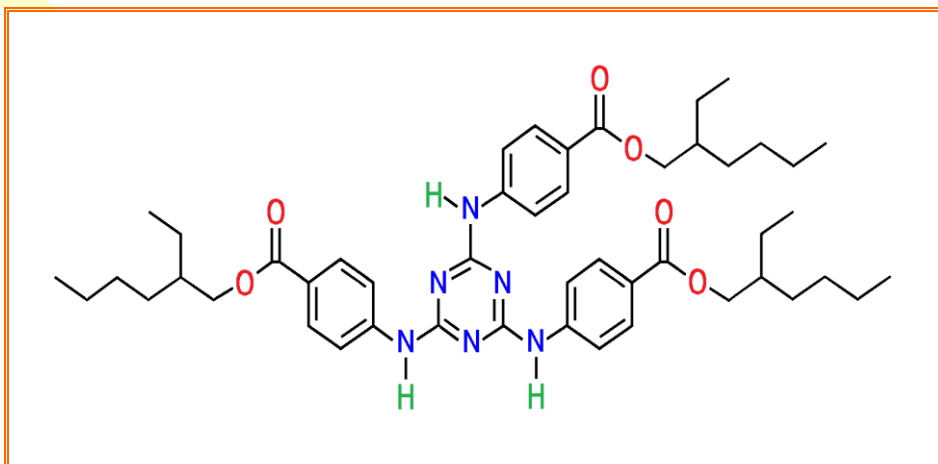
SIMPSSN™ EHT

Oil Soluble UV-B Filter and Absorber Active Ingredient for Cosmetic and Pharmaceutical Multiple Formulations

Product Information

Product Name:	SIMPSSN™ EHT
INCI Name:	Ethylhexyl triazone (EHT)
Chemical name:	4-[[4,6-bis[[4-(2-ethylhexoxy-oxomethyl)phenyl]amino]-1,3,5-triazin-2-yl]amino]benzoic acid 2-ethylhexyl ester. (2,4,6-trianilino-(p-carbo-2'-ethylhexyl-1'-oxy)-1,3,5-triazine)
Synonyms:	4,4',4''-(1,3,5-Triazine-2,4,6-triyltriimino)trisbenzoic acid tris(2-ethylhexyl) ester; Octyl triazone; UVT-150 (YICK-VIC); Uvinul T 150 (BASF).
CAS No.:	88122-99-0
EINECS No.:	402-070-1
Formula:	C ₄₈ H ₆₆ N ₆ O ₆
Molecular Weight:	MW = 823.07 g/mol

Structural formula:



Definition, Properties, Benefits and Applications

Description: **SIMPSSN™ EHT** is a highly effective **UVB** filter with exceptionally high absorptivity. Due to the very high absorbency only small concentrations are required in cosmetic sun care preparations, to achieve a high **SPF** value. The polar nature of **SIMPSSN™ EHT** gives it good affinity to the keratin in the skin, so that formulations in which it is used are particularly water-resistant. This property is further enhanced by its complete insolubility in water.

EU Regulations: (INCI/EC)	Cosmetic Ingredient: {Cosmetics - CosIng - Ingridirmt [EC Regulation (v.2)] 2017}		
Ingredient: INCI/EC Name:	Ethylhexyl triazone (EHT)		
Functions:	UV FILTER UV ABSORBER		
Cosmetic Restriction:	VI/15 (Annex/Ref#)	Regulation Regulated By	(EC) No 1223/2009 98/62/EC

Benefits And Functions: **SIMPSSN™ EHT** can be incorporated in sunscreens, day care products as well as skin lightening products formulations.

- Benefits and Features:**
- Highest photo-stable absorption of all available **UVB** filters. Large coverage of the **UV-B** range
 - Photostable and ability to photostabilize other **UV filters**
 - Best efficiency even at lowest **UV** filter concentration. Synergistic effect with the other **UV-B** filters (**SPF** booster) and with **UV-A** filters (**PFA / PA** booster)
 - Synergistic effect with the other **UV-B** filters (**SPF** booster) and with **UV-A** filters (**PFA / PA** booster)
 - Soluble in polar cosmetic oils. Odorless, colorless, suitable for perfume-free formulations
 - Excellent compatibility with cosmetic ingredients including the insect repellent **DEET**.
 - High salt tolerance. Extremely low skin penetration.

Application: The **SIMPSSN™ EHT** is used in a large number of cosmetics to protect the skin or the hair, the product itself, particularly the colorant, the fragrance or the active ingredient against the harmful effects of **UV** radiation.

As an oil-soluble **UVB** filter, **SIMPSSN™ EHT** is an ingredient for almost every cosmetic preparation, including emulsions, oils, gels, lipsticks, nail varnishes etc. This also applies for the pigments and the like.

In skin protection: **UV** radiation is responsible for various physiological effects in the skin, as a result of its high energy content. These effects include sunburn, the premature appearance of wrinkles, i. e. accelerated ageing of the skin and, with frequent intensive exposure, an increased risk of skin cancer. **SIMPSSN™ EHT** and other **SIMPSSN™ UV filters** provide vital protection for the skin against these harmful effects of **UV** radiation. They are now increasingly being used not only in sun preparations but also in other skin cosmetics such as day creams.

The use of **SIMPSSN™ EHT** and other **SIMPSSN™ UV filters** to protect the skin is subject to legislation in many countries. The concentrations of **UV filters** in sun preparations depend on the desired degree of protection, measured in terms of the sun protection factor (**SPF**). Commonly, organic **UV filters** are combined with micro pigments in products with a high **SPF**.

The combination of **SIMPSSN™ EHT** with other **SIMPSSN™ UV filters** in the personal care formulations is recommended.

Protecting the hair Both the ultraviolet and visible components of sunlight have tangible effects on the hair in that they bleach it and make it brittle. As has been demonstrated in studies, it is possible to provide protection against these effects with **UV filters**. **SIMPSSN™ EHT** and the Broad-band filters such as the **SIMPSSN™ BP-3**, **SIMPSSN™ BP-4** and **SIMPSSN™ MBBT-N UVAB filters** are particularly suitable and can be used in hair-care products such as gels, setting lotions, normal and gloss hair sprays.

Protecting sensitive products **UV filters** can be used in cosmetics to protect the colorants against fading, to improve the stability of fragrance oils and active constituents against oxidation and to stabilize the viscosity of gels and shampoos. It is always necessary to add a **UV filters** if the cosmetic product is exposed to **UV** radiation, as is the case when the packaging is transparent. The protection of products usually requires concentrations of 0.05-0.5%, rather less than for skin protection. In these concentrations, **SIMPSSN™ EHT** and other **SIMPSSN™ UV filters** are generally not subject to legislation (though such legislation as exists must be observed), i. e. all the **SIMPSSN™ UV filters** can, in principle, be used to protect products against **UV** radiation.

Important: It is strongly recommended that **SIMPSTB™ WOSD-850 series products (Photostabilizers)** are much more suitable to protecting the sensitive products in formulations both water and oils soluble.

Use level: **SIMPSSN™ EHT (National regulations have to be observed)** Max. 5%.

(W/W) Generally concentration used: 1-4%

The concentration recommended is 2-3%.

As the Photostabilizer to protect the sensitive products in formulations:

0.05-0.5 %; generally: 0.1-0.3%

Toxicological Information

Toxicology:

The **SIMPSSN™ EHT** has been toxicologically assessed for its suitability in cosmetic preparations. On the basis of information at our disposal and provided that the recommended concentrations and fields of application are adhered to, there is no evidence of any toxicological risk associated with their use.

Acute toxicity: LD₅₀ / oral / rat: ≥ 4500 mg / kg (BW)
 LD₅₀ / oral / mouse: ≥ 4200 mg / kg (BW)

Sensitization:

Primary skin irritation / rabbit / 10% in oil / **SIMP** test: Non-irritant
 Primary mucous membrane irritation / rabbits' eye Irritation: slightly-irritant

Safety:

SIMPSSN™ EHT can be safely handled without any irritation caused to the skin at recommended use level. Read and understand the **Material Safety Data Sheet (MSDS)** before using or handling this product.

Product Technical Information

Properties & Specification:

Appearance:	White to light yellow crystalline powder. Almost odorless or very weak characteristic odor.	(RT)
Identity:	UV and IR spectrum conforms the sample from SIMP	
Assay:	≥ 97 (Inc.: ≥ 98.0)	% (W, HPLC)
Melting point:	≥ 124	°C (on dry)
Log POW:	7.0	(Octanol / water partition coefficient)

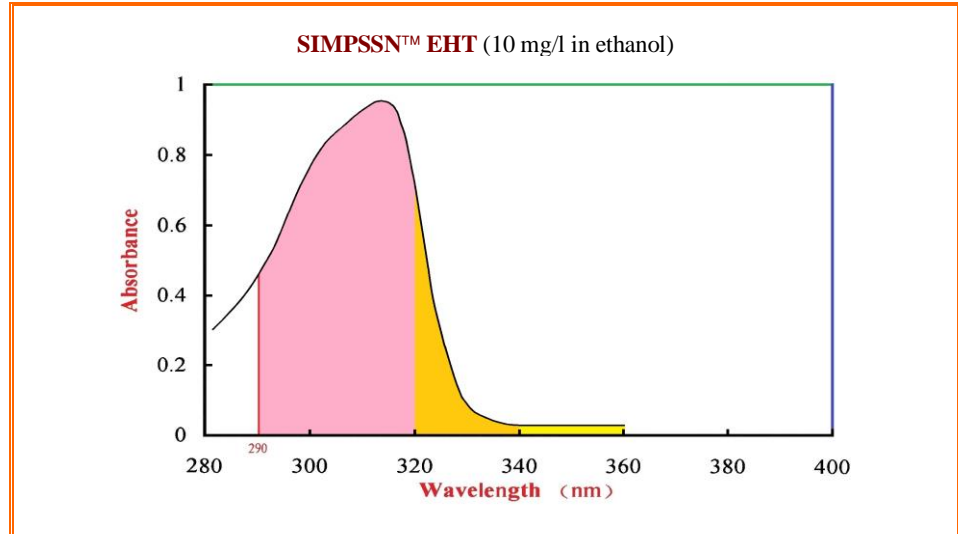
Note:

The properties and specification in detail also can be seen on **TDS** ('**Technical Data Sheet**') of **SIMPSSN™ EHT**. A '**Technical Data Sheet**' (**TDS**) of the product is available upon requirement.

“Product Specification or Quality Standards” — Please see the **COA** (**Certificate Of Analysis**) from the product **SIMPSSN™ EHT** of the **SIMP**, and / or **order on agreement** !

The Quality of the product **SIMPSSN™ EHT** meets the requirements from the **STSC** [**STSC** = 《**Safety and Technical Standards for Cosmetics**》 Version 2015, **China**] and / or **EU** and the like.

UV Spectrum:



UV Properties:

λ_{max} .	(Absorption peaks):	314 nm
λ_c	(Critical wavelength):	- nm
R	(UV-A / UV-B ratio):	-

Solubility:

Dispersible in water and soluble in parts of cosmetic oils.

Solubility of SIMPSSN™ EHT in different oils and materials (W/W)			
INCI name	Con.	INCI name	Con.
Diocetyl Malate	13%	PPG-3 Myristyl Ether	14%
Hexyl Laurate	8%	PEG-7 Glyceryl Cocoate	12%
Diocetyl Adipate	9%	PEG-7 Hydrogenated Castor Oil	10%
Cocoglycerides	10%	PPG-2 Myristyl Ether Propionate	8%
PEG-7 Glyceryl Cocoate	15%	Ethylhexyl Methoxycinnamate(OMC)	13%
Tri-C12-13 Alkyl Citrate	17%	Propylene Glycol Monoisostearate	9%
C12-13 Alkyl Lactate	22%	Propylene Glycol Dicaprylate/ Caprate	13%
Di-C12-13 Alkyl Malate	23%	Propylene Glycol Dicaprylate/ Dicaprate	10%
C 12-13 Alkyl Octanoate	24%	Isopropyl PPG-2 Isodeceth-7-Carboxylate	26%
Tridecyl Salicylate	10%	Isodecyl Neopentanoate (and) Diisopropyl Sebacate (and) Lauryl Lactate	16%
Di-C12-13 Alkyl Tartrate	35%		

Formulations Application Guide

Guide for Formulations:

SIMPSSN™ EHT is a white to light yellow powder. It is a triazine derivative and is not approved for use in **OTC** sunscreen products in the USA.

SIMPSSN™ EHT is a highly effective **UV-B** filter with an exceptionally high absorptivity of over 1,500 at 314 nm. Because of its high A1/I value, only small concentrations are required in cosmetic sun care preparations, to achieve a high SPF value. Concentrations up to 3% are recommended.

The polar nature of **SIMPSSN™ EHT** gives it good affinity to the keratin in the skin, so that formulations in which it is used are particularly water-resistant. This property is further enhanced by its complete insolubility in water.

SIMPSSN™ EHT is usually dissolved in the oily phase of the emulsion.

SIMPSSN™ EHT dissolves readily in polar oils such as Cetiol. HE, Velsan. D8P-3, the Cosmacol. - and Myritol. grades, and Witconol. APM. Nonpolar oils such as liquid paraffin are unsuitable.

SIMPSSN™ EHT can crystallize after prolonged storage, as a result of supersaturation.

Some of these oils are mentioned in patents, and these must be respected.

SIMPSSN™ EHT is also very stable towards light. It remains practically unchanged, even when it is exposed to intense radiation.

Safety and Registration Status

REGULATIONS

SIMPSSN™ EHT [INCI Name: Ethylhexyl triazone (**EHT**)]

Approval status:
Max. amounts: (W/W)

China	EU	Australia	Japan	USA
+ (5%)	+ (5%)	+ (5%)	+ (6%)	Not approved

+ = Approved as a sunscreen agent (with max. concentration) .

China Status:

SIMPSSN™ EHT [INCI Name: Ethylhexyl triazone (**EHT**)] is approved as **UV** filter on the **STSC** [**STSC** = «**S**afety and **T**echnical **S**tandards for **C**osmetics» (China, 2015)] in concentration up to **5 %**.

EC Status:

SIMPSSN™ EHT [INCI Name: Ethylhexyl triazone (**EHT**)] is approved as **UV** filter on part I of Annex VII of the European Cosmetics Directive 76/768/EEC in concentration up to **5 %**.

USA Status:

SIMPSSN™ EHT has been approved in most countries (except for the pending US approval).

SIMPSSN™ EHT [INCI Name: Ethylhexyl Triazone (**EHT**)] is approved for use in Europe by the European Union's Scientific Committee for Cosmetic Products & Non-Food Products. It is also approved in China, Canada by Health Canada, in Australia, Brazil, South Africa, the Asian states and other countries.

Other Information

Standard Packaging:	Net: 25kg/drum. <i>or order on agreement !</i>
Storage:	Store in tightly-closed, light resistant containers at dry and cool place. Storage temperature: RT.
Stability:	The minimum storage time for the SIMPSSN™ EHT in the original sealed containers is at least 3 years. Stable at above conditions in original sealed drum in which at least for 2 years.
Shipping / Handling:	No restrictions. See the Material Safety Data Sheet (MSDS) .

Order Information

- A. Product Trade Name:** **SIMPSSN™ EHT**
- B. Package:** Net: 25 kg /carton (drum) lined a PE bag.
or order on agreement !

TDS & MSDS

The 'Technical Data Sheet' (TDS) and 'Material Safety Data Sheet' (MSDS) of the product also is available on requirement.

Different reference formulations with **SIMPSSN™ EHT** are available and can be sent on request.

Remark

Although these data and information have been prepared with the utmost possible care, we reserve the right to make changes due to product improvement and other considerations.

Contact us and credit:

SIMP GROUP Shanghai SIMP Biotechnology Co., Ltd.

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Address: Shang-xue Road 229 (Feng-mao Road 580), Jiading District, Shanghai 201 801, CHINA

Web Site: www.simpbiotech.com

E-mail: simpbiotech@simpbiotech.com

Tel.: ☎ 86-21-5990 7606, 5990 7607

Fax: ☎ 86-21-5990 7602

Guangzhou Office: ☎ 020-6684 4588

Beijing Office: ☎ 86-10-6447 5821, 6447 5822, 6447 5823

Advice:

The information and statements presented herein, while not guaranteed, were prepared by technical personnel and, to the best of our knowledge and belief, is true and accurate as of the date hereof.

Before using one of these products of **SIMP** GROUP COMPANIES, read, understand and comply with the information and precautions in the **Product Instruction Sheet (PIS)**, the **Technical Data Sheet (TDS)**, the **Material Safety Data Sheets (MSDS)**, label and other literature about the product. No warranty, representation or guarantee, express or implied, is made regarding accuracy, performance, stability, reliability or use. This information is not intended to be all-inclusive, because the manner and conditions of use, handling, storage and other factors may involve other or additional safety or performance considerations. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information, products or vendors referred to herein. **NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.** Nothing herein is to be taken as permission, inducement or recommendation to practice any patented invention without a license.

Note:

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According to
《Safety and Technical Standards for Cosmetics》(STSC) Version 2015, China.
And Regulation (EC) No. 1907/2006

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