



SIMPSSN™ BMBM

UV-A Filter

INCI Name: **Butyl Methoxy Di-Benzoylmethane**
(**BMBM**)

Oil Soluble UV-A Filter and Absorber Active
Ingredient for
Pharmaceutical Topical Preparations and
Cosmetic Formulations

Product Instruction Sheet
(**PIS**)



SIMP GROUP

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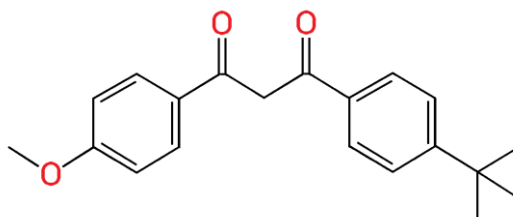
SIMPSSN™ BMBM

Oil Soluble UV-A Filter and Absorber Active Ingredient for Pharmaceutical Topical Preparations and Cosmetic Formulations

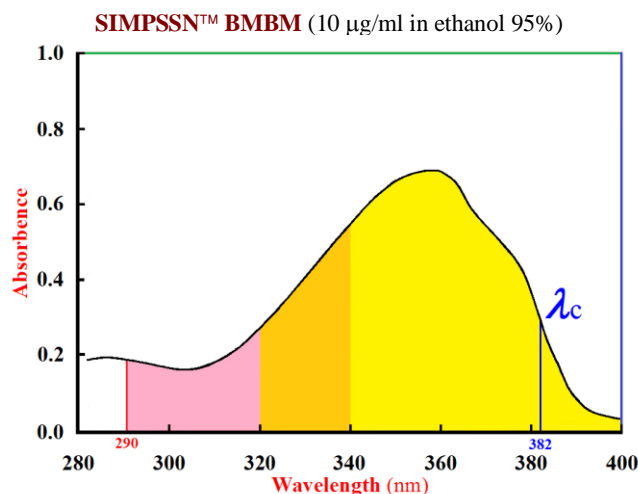
Product Information

Product Name:	SIMPSSN™ BMBM	(ON: SIMPSSN™ UVA-440)
INCI Name:	Butyl methoxydibenzoylmethane (BMBM/BMDM/BMDBM)	
USP Name:	Avobenzone	
Chemical Name:	1-[4-(1,1-dimethylethyl)phenyl]-3-(4-methoxyphenyl)-1,3-Propanedione	
Synonyms:	PARSOL 1789; Uvinul BMBM; BMDM; BMDBM; MAKKN	
CAS No.:	70356-09-1	
EINECS No.:	274-581-6	
Formula:	C ₂₀ H ₂₂ O ₃	
Molecular Weight:	MW = 310.39 g/mol	

Structural formula:



UV Absorption Spectrum:



Definition, Properties, Benefits and Applications

Description and Applications:

SIMPSSN™ BMBM is used as an oil soluble, broad spectrum **UVA** filter in cosmetic sun protection formulations

EU-Functions:
(INCI)

UV FILTER

UV ABSORBER {Cosmetics - CosIng [EC Regulation (v.2)] 2017}.

SIMPSSN™ BMBM is a **UV-A** absorber with a strong absorber of radiation in the longer wavelengths of the **UV-A (UVA I 340-400 nm)** not covered effectively by other **UV** absorbers. It protects against photodamage and premature ageing of the skin caused by exposure to **UV-A** light; U.S. approved use level: up to 3%. E.U. and China approved use level: up to 5%. Approval Status: Globally approved.

- **SIMPSSN™ BMBM** is a very effective **UV-A I** absorber for a wide range of cosmetics formulations applications.
- Maximum absorption is at 357nm with a specific extinction of about 1100 and it has additional absorbing properties in the **UV-A II** spectrum.
- **SIMPSSN™ BMBM** is an oil soluble, crystalline powder with a slight aromatic odor. Adequate solubility in the formulation must be ensured in order to avoid recrystallization of the. The **UVB** filters **SIMPSSN™ OMC**, **SIMPSSN™ OSC**, **SIMPSSN™ ODPABA** etc. and certain emollients are excellent solvents.
- **SIMPSSN™ BMBM** should be used in association with effective **UV-B** absorbers to achieve suncare formulations with broad-spectrum protection.
- In combination with the water soluble **UV-A II** absorber **SIMPSSN™ UVA-500** very broad spectrum **UV-A** protection products can be formulated.
- Approved world-wide. Concentration maximum varies according to local legislation.

Solubility:

SIMPSSN™ BMBM is soluble in organic solvents and most of cosmetic oils. It is not soluble in water.

Solubility of SIMPSSN™ BMBM in different solvents (20°C)	
<i>Solvent</i>	<i>Concentration</i>
Water	< 0.00002 g/l
Isopropanol	2 %
Ethanol	2 %
Mineral oil	<1 %
Diisopropyl Adipate	16 %
Diethylhexyl 2,6-Naphthalate	15 %
Caprylic/Capric Triglyceride	14 %
C12-15 Alkyl Benzoate	14 %



Solvent	Concentration
Ethylhexyl Salicylate	18 %
Homosalate	20 %
Ethylhexyl Methoxycinnamate	26 %
Isoamyl p-Methoxycinnamate	20 %
Octocrylene	27 %
Isopropyl Myristate	10 %
PPG-15 Stearyl Ether	7 %
Isopropyl Palmitate	10 %
Diisopropyl Adipate	19 %

Note: These values are taken out of Technical Data Sheets or Material Safety Data Sheets.

Use level: (W/W) **(National regulations have to be observed)** ≤ 5 %
 Mostly: 1-3%

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.

Toxicological Information

Toxicological Information: The **SIMPSSN™ BMBM** 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: > 16000 mg / kg (BW)
 LD₅₀ /oral /mouse: > 8000 mg/kg (BW)

Sensitization:

Primary skin irritation / rabbit / **SIMP** test: non-irritant
 May cause slight eye irritation.

Safety:

SIMPSSN™ BMBM can be safely handled without any irritation caused to the skin. Read and understand the Material Safety Data Sheet before using or handing this product. **SIMPSSN™ BMBM** is not considered to be a hazardous chemical under the OSHA Hazard Communication (29 CFR 1910.1200).

Technical Information

Properties & Specification:

Appearance:	White to light yellow fine crystalline or crystalline powder with very weak characteristic odor. (RT)		
Identity:	Passes SIMP and U.S.P. Tests for Infrared and Ultraviolet absorption		
Melting Point:	82-86		°C
Assay:	≥ 98.0	(Inc.: ≥ 99.0)	% (GC/HPLC)
Loss on Drying:	≤ 2.0	(Inc.: ≤ 1.0)	% (V 60°C)
Moisture content:	≤ 2.0		% (K. Fischer)
Log POW:	6.1 (Octanol/water partition coefficient)		

Note:

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

“Product Specification or Quality Standards” — Please see the **COA** (Certificate **O**f **A**nalysis) from the product **SIMPSSN™ BMBM** of the **SIMP**, and / or **order on agreement!**

The Quality of the product **SIMPSSN™ BMBM** meets the requirements from the **STSC** [**STSC** = 《**S**afety and **T**echnical **S**tandards for **C**osmetics》 Version 2015, **China**] and / or **EU** and the like.

Formulation Guideline with SIMPSSN™ BMBM

Solubilization & Emulsification:

Emulsification at higher temperature:

To solubilize **SIMPSSN™ BMBM** by adding it directly into the oil phase and heating to permitted and needed.

Soluble in cosmetic oils.

For cold process : solubilize **SIMPSSN™ BMBM** in the most cosmetic oil.

Important Tips

Important Tips for Formulations:

- When formulating with **SIMPSSN™ BMBM** a chelating agent should be added to the oil phase of the emulsion to avoid the formation of colored complexes with free metal ions such as iron.
- The use of formaldehyde doning preservative systems, or preservation systems with reactive methylene groups, should be avoided since these species react with **SIMPSSN™ BMBM** at temperatures above 30°C. This results in loss of preservation in the formulation.
- The combination of **SIMPSSN™ BMBM** and Zinc Oxide can interact to form a complex which may precipitate out.
- Materials to avoid: metal salts, metals, formaldehyde iron, steel.

Safety and Registration Status

REGULATIONS

SIMPSSN™BMBM [INCI Name: Butyl methoxy dibenzoylmethane (BMBM/BMDM/BMDBM)] is approved world-wide. Concentration maximum varies according to local legislation.

Approval status:

Max. amounts: (W/W)

EU	China	Australia	USA	Japan
+ (5%)	+ (5%)	+ (5%)	+ (3.0%)*	+ (10%)

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

* Allowed to be used alone or in combination with Ethylhexyl Methoxycinnamate, Cinoxate, Benzophenones 3 and 4, Ethylhexyl Salicylate, Homosalate and TEA Salicylate

China

According to the **STSC** [**STSC** = 《Safety and Technical Standards for Cosmetics》 Version 2015, China] **SIMPSSN™ BMBM** [INCI Name: Butyl methoxy dibenzoylmethane (BMBM)] is permitted as UV-filter in a maximum authorized concentration of 5%.

EU

According to the EEC Cosmetic Directive, **SIMPSSN™ BMBM** [INCI Name: Butyl methoxy dibenzoylmethane (BMBM)] is permitted as UV-filter in a maximum authorized concentration of 5%.

USA

SIMPSSN™ BMBM has been approved for use in the USA# by the Food and Drug Administration in a maximum authorized concentration of 3%.

In the USA, Titanium Dioxide-Avobenzene combinations are not allowed by the FDA.

NAFTA (not in combination with Titanium Dioxide)

SIMPSSN™ BMBM [INCI Name: Butyl methoxy dibenzoylmethane (BMBM)] 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.

Conditions of use and warning which must be printed on the label:

Other Information

Packaging: Drums of net: 25-kg / drum capacity. *or order on agreement !*

Storage: Store in tightly-closed containers under normal conditions (RT).

Stability: **SIMPSSN™ BMBM** should be stored in the original sealed containers protected from light and humidity in a clean place at a temperature below 30°C. In order to avoid secondary microbial contamination, following opening, containers should be handled with special care. If stored under the recommended conditions, **SIMPSSN™ BMBM** remains stable for 2 years.

Shipping / Handling: No restrictions. See **Material Safety Data Sheet (MSDS)**.

Order Information	A. Product Trade Name: SIMPSSN™ BMBM
	B. Package: Net: 25 kg /drum <i>or order on agreement !</i>

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™ BMBM** 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:

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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, handing, 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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