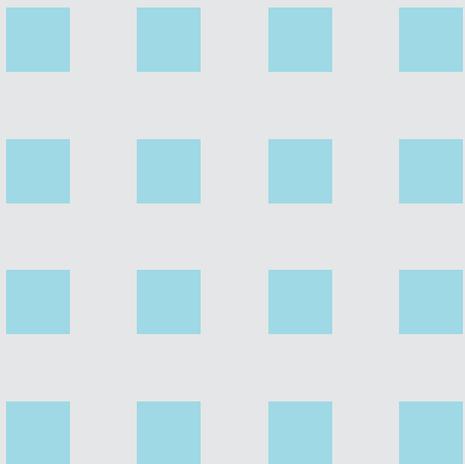


# SINOPCC GROUP



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## UV FILTERS



Sustainable Innovation for a Better Future

# TINSORB UV FILTERS



# TINSORB UV FILTERS

Exposure to harmful UV radiation is linked to 90% of skin cancers, as well as premature skin aging such as wrinkling, loss of elasticity and pigmentation. UV filters are active ingredients in sunscreen products that absorb, reflect, scatter and block UV radiation, thereby reducing the amount of UV light that penetrates the skin and reducing the risk of skin cancer.

Sun care is one of the fastest growing segments of the personal care market, and in addition to the need to protect yourself from the sun while on a beach vacation, UV protection is now used in many everyday cosmetic products such as facial skin care. Skin and hair are protected from sun damage. In addition, they are used as stabilizers to protect the integrity of the finished product (color and aroma).

Sunscreen active ingredients are generally divided into organic UV filters and inorganic UV filters.

Organic UV filters are also known as chemical sunscreens. They are composed of organic (carbon-based) molecules that act as sunscreens by absorbing UV radiation and converting it into heat. Organic UV filters absorb strongly at specific wavelengths and are transparent to visible light.

Organic UV filters can in principle be used in all sun/UV protection products, but may not be suitable for babies or products with sensitive skin due to possible allergic reactions in sensitive people. The efficacy of oil-soluble organic UV filters is affected by their solubility in the emollients used in the formulation. In general, polar emollients are the best solvents for organic filters.

# TINSORB UV FILTERS

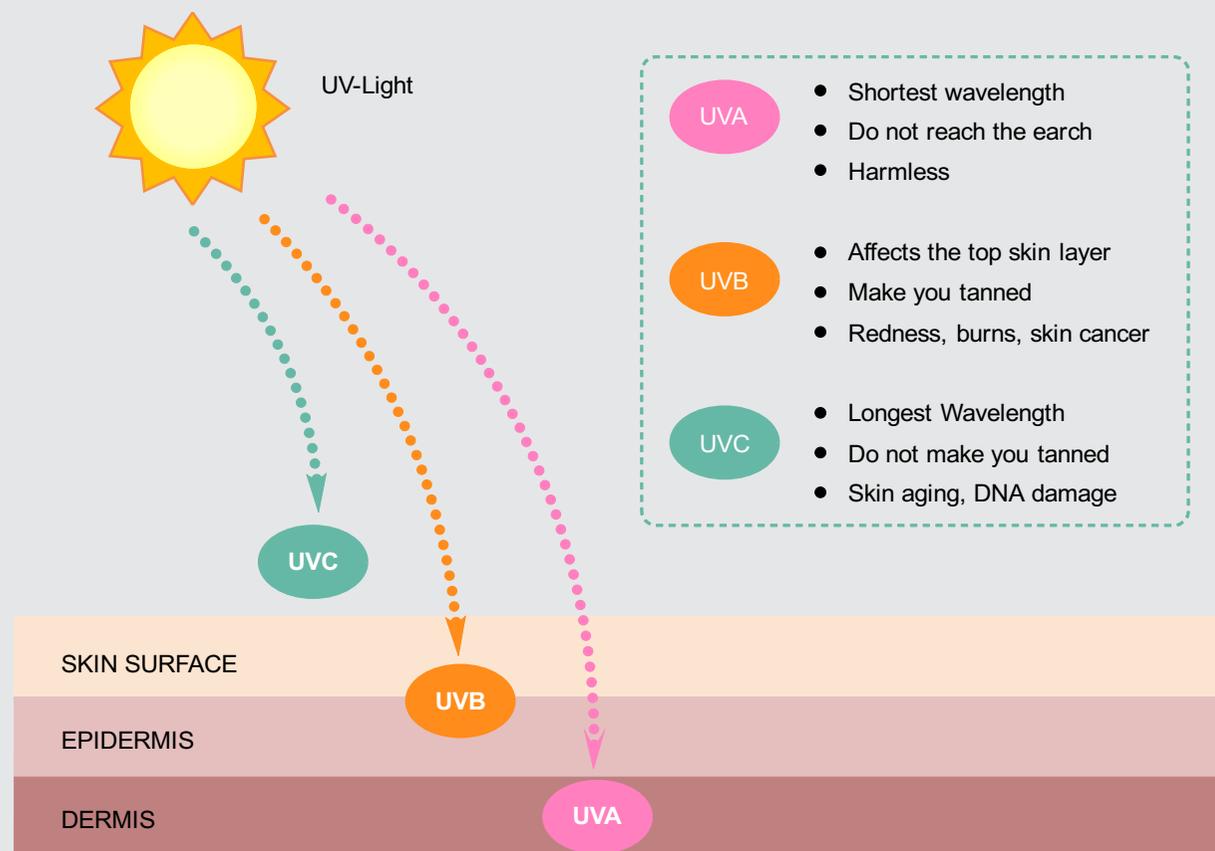
TINSORB UV FILTERS			
ORGANIC UV FILTERS			INORGANIC UV FILTERS
UVA FILTERS	UVB FILTERS	BROAD SPECTRUM FILTERS	
1. <i>Benzophenones</i>	1. <i>PABA derivatives</i>	1. <i>Ecamsul</i>	1. <i>Zinc Oxide</i>
2. <i>Avobenzone</i>	2. <i>Cinnamates</i>	2. <i>Silatriazole</i>	2. <i>Titanium Dioxide</i>
3. <i>Meradimate</i>	3. <i>Salicylates</i>	3. <i>Bemotrizinol</i>	3. <i>Silicon Dioxide</i>
4. <i>Bis(2-ethylhexyl) salicylate</i>	4. <i>Octocrylene</i>	4. <i>Bisotrizole</i>	
5. <i>Dihydroxyacetone</i>	5. <i>Ensalazole</i>		
6. <i>Hexyl benzoate</i>	6. <i>Ethylhexyl triazone</i>		
7. <i>Ecamsule</i>	7. <i>Isotrizinol</i>		
8. <i>Methyl anthranilate</i>	8. <i>Enzacamene</i>		
9. <i>Encrylene</i>	9. <i>Polysiloxane-15</i>		

## TINSORB UV FILTERS

Inorganic UV filters are also known as physical sunscreens. Inorganic UV filters consist of inorganic particles (usually zinc oxide and titanium dioxide) that act as sunscreens by reflecting and scattering UV radiation. Inorganic UV filters are available in dry powder or pre-dispersion form, and the performance attributes of titanium dioxide and zinc oxide vary widely depending on the individual characteristics of the particular grade used. Inorganic UV filters are suitable for any application of UV protection other than clear formulations or aerosol sprays. They are especially suitable for baby sun protection products, sensitive skin products.

There are many combinations of UV filters that work synergistically. Good synergies are usually achieved through complementary actions, for example: combining oil-soluble (or oil-dispersible) filters with water-soluble (or water-dispersible) filters, combining UVA filters with UVB filters, combining inorganic UV filters with organic UV filters.

## THE EFFECTS OF DIFFERENT UV LIGHT ON THE SKIN



Sustainable Innovation for a Better Future

# ORGANIC UV FILTERS

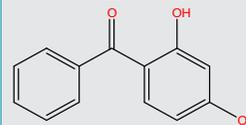


## ORGANIC UV FILTERS



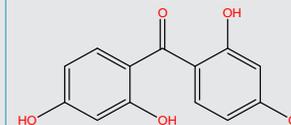
### TinSorb™ 1610

CAS No.: 131-56-6  
2,4-Dihydroxybenzophenone  
INCI Name: Benzophenone-1



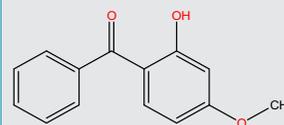
### TinSorb™ 1620

CAS No.: 131-55-5  
2,2',4,4'-Tetrahydroxybenzophenone  
INCI Name: Benzophenone-2



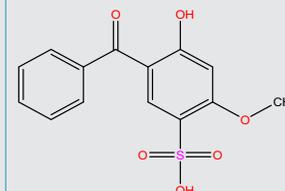
### TinSorb™ 1630 Oxybenzone

CAS No.: 131-57-7  
2-Hydroxy-4-methoxybenzophenone  
INCI Name: Benzophenone-3



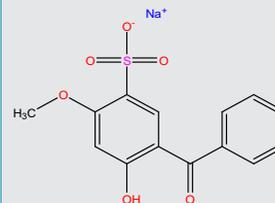
### TinSorb™ 1640 Sulisobenzone

CAS No.: 4065-45-6  
2-Hydroxy-4-methoxy-benzophenone-5-sulphonic acid  
INCI Name: Benzophenone-4



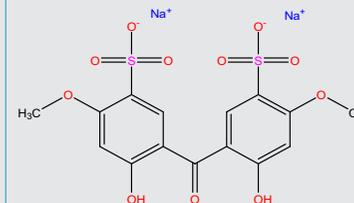
### TinSorb™ 1650

CAS No.: 6628-37-1  
2-Hydroxy-4-methoxybenzophenone-5-sodium sulfonate  
INCI Name: Benzophenone-5



### TinSorb™ 1690

CAS No.: 76656-36-5  
2,2'-Dihydroxy-4,4'-dimethoxybenzophenone-5,5'-bis(sodium sulfonate)  
INCI Name: Benzophenone-9



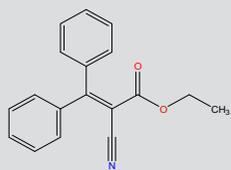
# ORGANIC UV FILTERS

# ORGANIC UV FILTERS



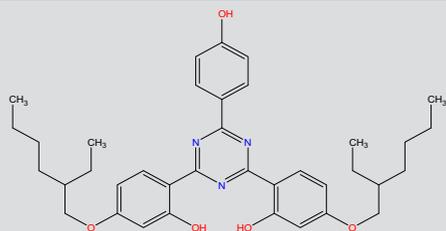
## TinSorb™ BHB

CAS No.: 190085-41-7  
2-hydroxybenzoic acid 2-butyltolyl ester  
INCI Name: Butyltolyl Salicylate



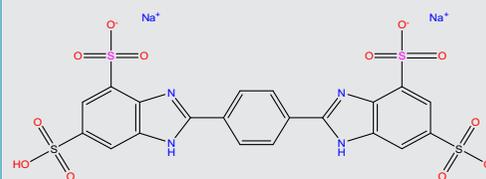
## TinSorb™ BEMT Bemotrizinol

CAS No.: 187393-00-6  
INCI Name: Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine



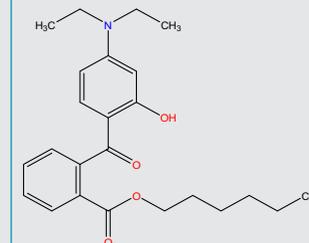
## TinSorb™ 1808

CAS No.: 180898-37-7  
INCI Name: Disodium Phenyl Dibenzimidazole Tetrasulfonate



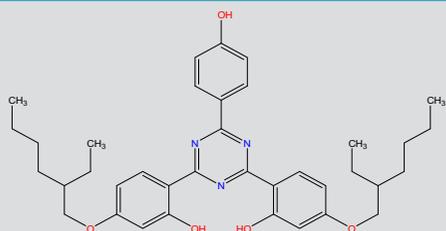
## TinSorb™ DHHB

CAS No.: 302776-68-7  
Diethylamino Hydroxybenzoyl Hexyl Benzoate



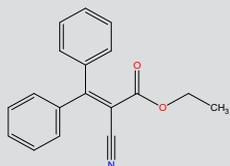
## TinSorb™ BEMT Bemotrizinol

CAS No.: 187393-00-6  
INCI Name: Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine



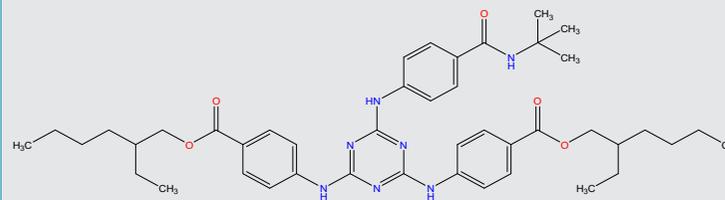
## TinSorb™ BHB

CAS No.: 190085-41-7  
2-Hydroxybenzoic acid 2-butyltolyl ester  
INCI Name: Butyltolyl Salicylate



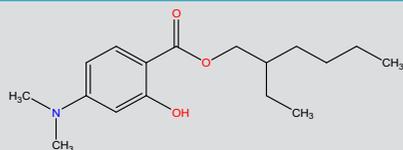
## TinSorb™ DHBT Iscotrizinol

CAS No.: 154702-15-5  
INCI Name: Diethylhexyl Butamido Triazone



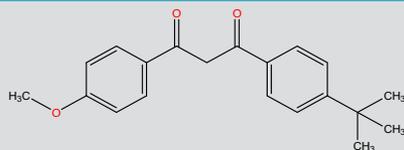
## TinSorb™ 1360 Padimate O

CAS No.: 21245-02-3  
2-Ethylhexyl 4-(dimethylamino)benzoate  
INCI Name: Ethylhexyl Dimethyl PABA



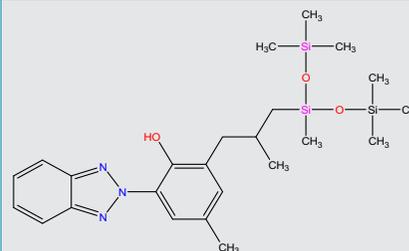
## TinSorb™ BMBM Avobenzon

CAS No.: 70356-09-1  
INCI Name: Butyl Methoxydibenzoylmethane



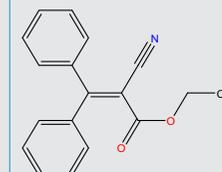
## TinSorb™ DTS Silatrizole

CAS No.: 155633-54-8  
2-(benzotriazol-2-yl)-4-methyl-6-[2-methyl-3-[methyl-bis(trimethylsilyloxy)silyl]propyl]phenol  
INCI Name: Drometrizole Trisiloxane



## TinSorb™ ETO

CAS No.: 5232-99-5  
Ethyl 2-cyano-3,3-diphenylacrylate  
INCI Name: Etocrylene



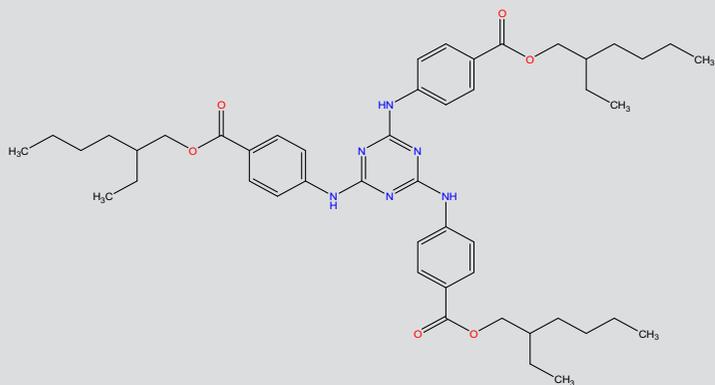
# ORGANIC UV FILTERS

## TinSorb™ EHT

CAS No.: 88122-99-0

Tris(2-ethylhexyl)-4,4',4''-(1,3,5-triazine-2,4,6-triyltriamino)tribenzoate

INCI Name: Ethylhexyl Triazone

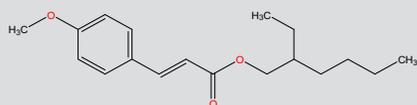


## TinSorb™ EHMC Octinoxate

CAS No.: 5466-77-3

2-Ethylhexyl 4-Methoxycinnamate

INCI Name: Ethylhexyl Methoxycinnamate

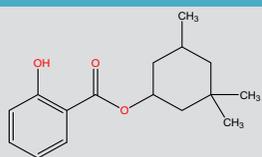


## TinSorb™ HMS

CAS No.: 118-56-9

3,3,5-Trimethylcyclohexyl Salicylate

INCI Name: Homosalate

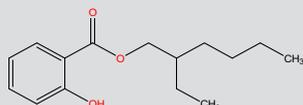


## TinSorb™ EHS Octisalate

CAS No.: 118-60-5

2-Ethylhexyl 2-hydroxybenzoate

INCI Name: Ethylhexyl Salicylate

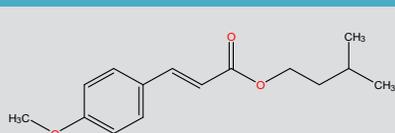


## TinSorb™ IAMC Amiloxate

CAS No.: 71617-10-2

Isoamyl p-methoxycinnamate

INCI Name: Isoamyl 4-Methoxycinnamate



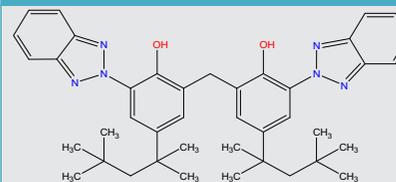
# ORGANIC UV FILTERS



## TinSorb™ MAX Bisotrizole

CAS No.: 103597-45-1

INCI: Methylene Bis-Benzotriazolyl Tetramethylbutylphenol

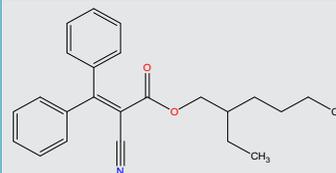


## TinSorb™ OCR Octocrylene

CAS No.: 6197-30-4

2-Ethylhexyl 2-cyano-3,3-diphenyl-2-acrylate

INCI Name: Octocrylene

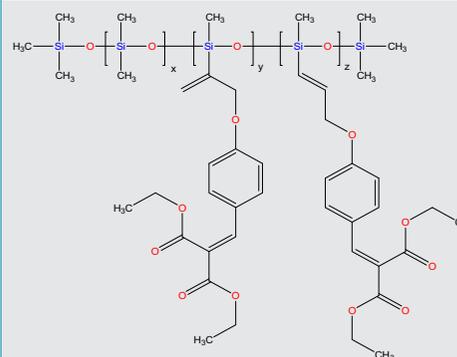


## TinSorb™ SLX

CAS No.: 207574-74-1

Dimethicodiethylbenzalmalonate

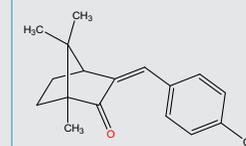
INCI Name: Polysilicone-15



## TinSorb™ MBC Enzacamene

CAS No.: 36861-47-9

INCI Name: 4-Methylbenzylidene Camphor

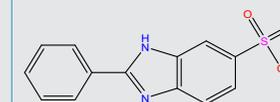


## TinSorb™ PBSA

CAS No.: 27503-81-7

2-phenyl-1H-benzimidazole-5-sulphonic acid

INCI Name: Phenylbenzimidazole Sulfonic Acid

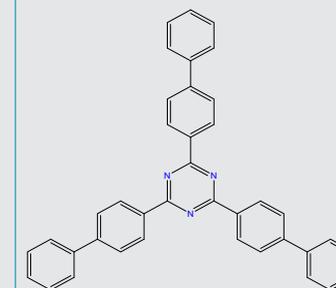


## TinSorb™ TBT

CAS No.: 31274-51-8

2,4,6-tris(4-phenylphenyl)-1,3,5-triazine

INCI Name: Tris-Biphenyl Triazine (nano)

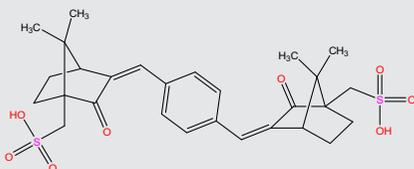


# ORGANIC UV FILTERS

## TinSorb™ TDA

CAS No.: 90457-82-2

INCI Name: Terephthalylidene dicamphor sulfonic acid



*With over 30 years of experience in producing, selecting and blending UV filters, TINTOLL is able to formulate innovative sun protection solutions that meet consumer expectations.*

*TINTOLL provides high-efficiency sunscreen active ingredients for personal care formulations. By maximizing the efficacy of the UV filters used, a high SPF product can be produced with a minimum of UV filters.*

# INORGANIC UV FILTERS

## TinSorb™ TST

CAS No.: 13463-67-7, 7631-86-9, 2943-75-1

INCI Name: Titanium Dioxide and Silica and Triethoxycaprylylsilane

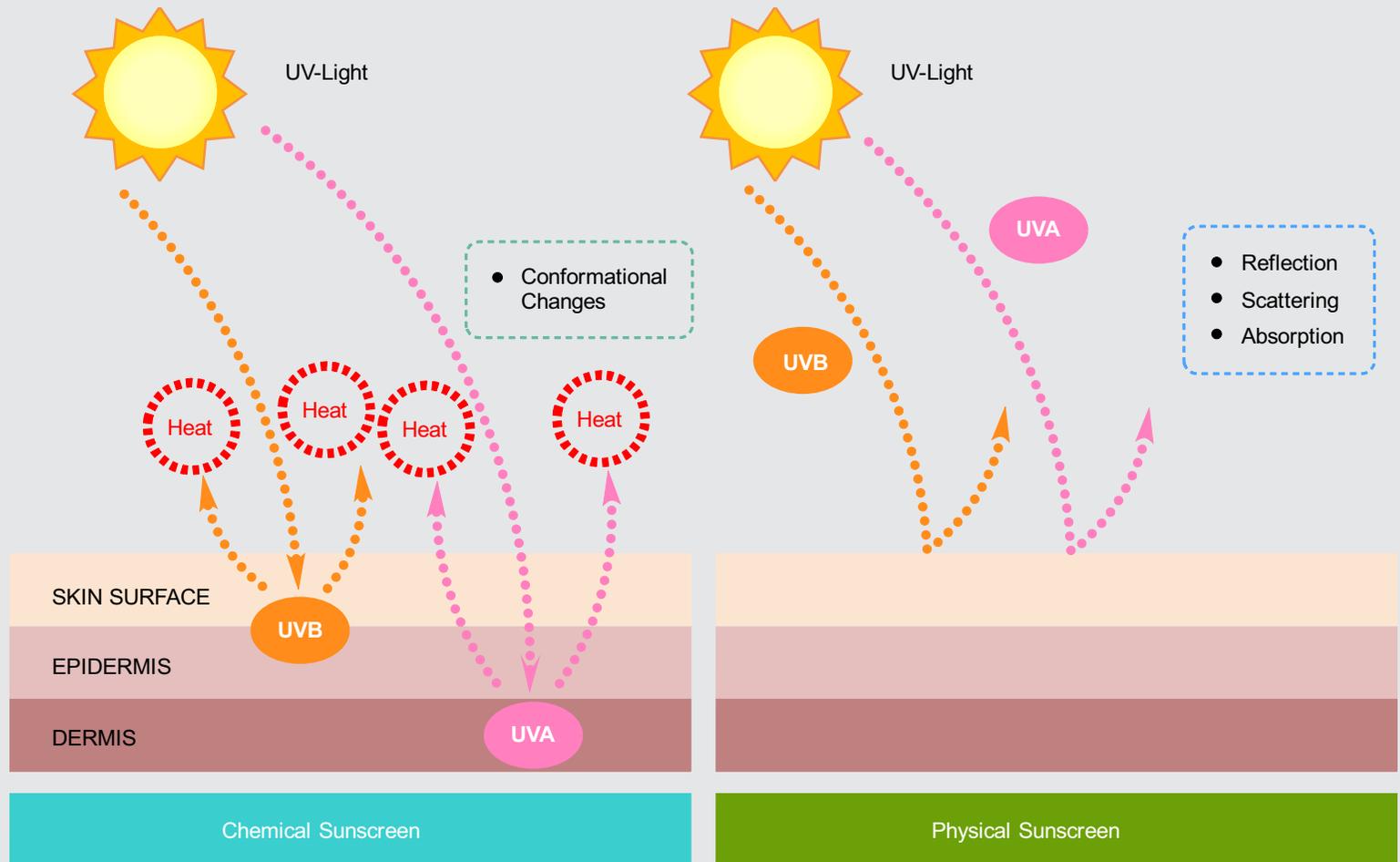
## TinSorb™ TAT

CAS No.: 13463-67-7, 1334-28-1, 2943-75-1

INCI Name: Titanium Dioxide and Alumina and Triethoxycaprylylsilane



# DIFFERENCE BETWEEN CHEMICAL AND PHYSICAL SUNSCREEN



Chemical sunscreens absorb UVA and UVB rays and transform them into non-damaging wavelengths of light and heat.

Physical sunscreens create a physical barrier on the skin to reflect UVA and UVB rays to defend skin immediately.

*Difference between chemical and physical sunscreen*

## TINTOLL STABILIZERS

## WHY SELECT TINTOLL?



### FOCUSING ON CUSTOMERS' NEEDS

TINTOLL is dedicated to customer's needs of polymer stabilizing additives and photoinitiators in UV curing coatings, constantly developing new products and offering integrated raw material solutions.

### INNOVATION AND TECHNOLOGIES

Innovation at TINTOLL is defined by our core value of sustainability and builds on our key strengths: superior scientific expertise, state-of-the-art technology, global marketing and sales network, and global regulatory experience.

### COMPREHENSIVE CUSTOMER SUPPORT

TINTOLL supports customers at every stage of the product development process: from the evaluating promising products, to sample testing, to scale production and delivery, together with formulations.

### SUSTAINABLE AND RELIABLE SUPPLY

We want to contribute towards a brighter, sustainable future and therefore maintain our competitive edge by creating economic benefits through proprietary technology, economies of scale, and backward integration.



Sustainable Innovation for a Better Future