THE SCIENCE OF SUNSCREEN

TYPES OF UV RADIATION

UVA wavelength **320-400nm**

Accounts for 95% of solar UV radiation reaching Earth's surface. Penetrates deepest into skin, and contributes to skin cancer via indirect DNA damage.

UVB wavelength **290-320nm**

Accounts for 5% of solar UV radiation reaching Earth's surface. Causes direct DNA damage, and is one of the main contributors to skin cancer.

UVC wavelength **290-100nm**

Filtered out by ozone in the Earth's atmosphere, and as a result does not reach the surface of the Earth, and doesn't cause skin damage.

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SUNSCREEN ACTIVE INGREDIENTS APPROVED IN THE USA

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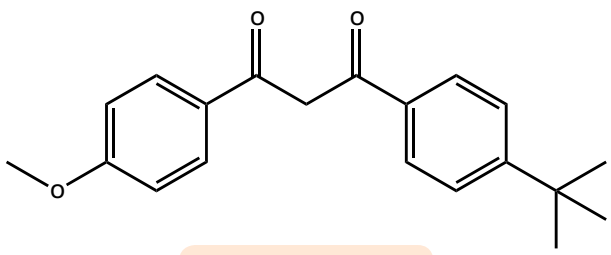
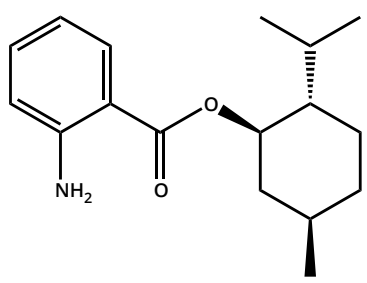
SUNSCREEN ACTIVE INGREDIENTS APPROVED IN THE EU

INORGANIC CHEMICALS IN SUNSCREEN, SUCH AS TITANIUM DIOXIDE & ZINC OXIDE, REFLECT OR SCATTER RADIATION. ORGANIC CHEMICALS ARE ALSO USED - THE CHEMICAL BONDS IN THESE ABSORB THE UV RADIATION, BEFORE IT CAN INTERACT WITH THE SKIN. SEVERAL DIFFERENT CHEMICALS ARE USED TO ENSURE FULL PROTECTION.

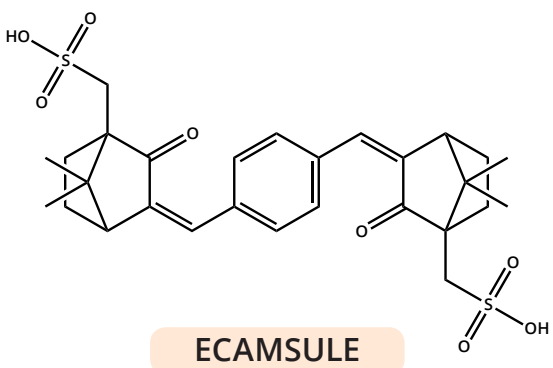
UVA BLOCKERS



AVOBENZONE

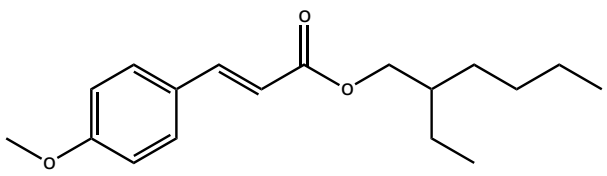


MENTHYL ANTHRANILATE

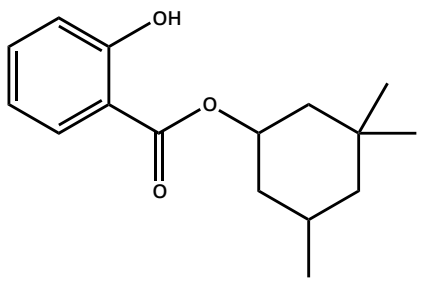


ECAMSULE

UVB BLOCKERS



OCTYL METHOXYCINNAMATE

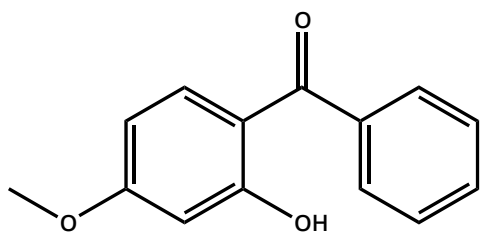


HOMOSALATE

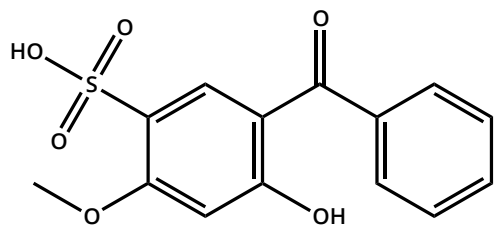
OTHER UVB BLOCKERS
(Italicised = not approved in USA)

PABA	Octylocrylene
Padimate O	Ensulizole
Cinoxate	*Octyl triazone*
Octyl salicylate	*Enzacamene*
Trolamine salicylate	*Amiloxate*

UVA & UVB BLOCKERS



OXYBENZONE



SULISOBENZONE

OTHER UVA & UVB BLOCKERS
(Italicised = not approved in USA)

Dioxybenzone	*Neo Heliopan AP*
Mexoryl XL	*Uvinul A Plus*
Tinosorb S	*UVAsorb HEB*
Tinosorb M	

All currently approved in EU, Canada & Australia