

Organic and Inorganic compounds found in sunscreens

The word organic has 2 meanings:

1. Organic food – food produced from organic farming methods and often certified organic, according to organic farming standards.
2. Organic compound – a compound that contains carbon and carbon-hydrogen bonds.

If we look at products, and at Nimue specifically, the second term is applied. It is the type of compound or chemical we use – the classification.

The primary difference between organic compounds and inorganic compounds is that organic compounds always contain carbon while most inorganic compounds do not contain carbon. Also, almost all organic compounds contain carbon-hydrogen (C-H bonds).

The second difference is that molecules associated with living organisms are organic. These include nucleic acids, fats, sugars, proteins and enzymes which are necessary for cellular processes to take place:

- DNA
- table sugar or sucrose, C₁₂H₂₂O₁₁
- benzene, C₆H₆
- Phenylbenzimidazole Sulfonic Acid (sunscreen ingredient)

Examples of inorganic compounds: salts, metals, substances made from single elements and any other compounds that don't contain carbon bonded to hydrogen. Example: Titanium Dioxide (sunscreen ingredient)

Nimue SPF 40 ingredients:

Inorganic Sunscreen	Organic Sunscreen
Micro-fine Titanium Dioxide	Phenylbenzimidazole Sulfonic Acid (PBMSA) Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine (BMT) Butylmethoxydibenzoylmethane Polysilicone-15
Why is it inorganic?	Why is it organic?
Because this molecule contains no carbon or carbon-hydrogen bonds and Titanium is classified as a metal.	If we look at the molecular structures, they all contain carbon and carbon-hydrogen bonds.
Physical sunscreen: Creates a layer on the skin which reflects and scatters the UV light away from the skin.	Chemical sunscreens: Absorbed by the skin. Works by changing UV rays into heat inside the skin, then releasing that heat from the skin.