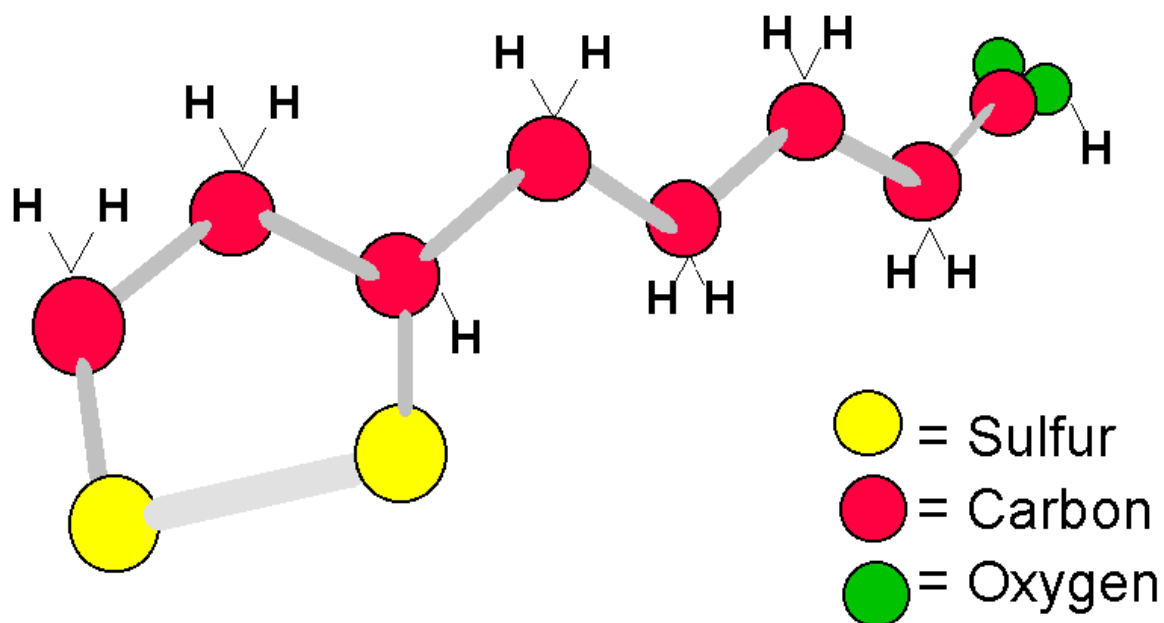


CAMPO ALPHA LIPOIC ACID



AGING is a universal phenomenon seen in all cells, ironically except for cancer cells, which are immortal.



CAMPO RESEARCH PTE LTD

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CAMPO® Multi-Purpose Cosmetic Base Chemicals & Active Ingredients

CAMPO® Novel Functional Active Cosmetic Ingredient & Raw Materials

AGING is an universal phenomenon seen in all cells, ironically except for cancer cells, which are immortal.

Scientists have struggled for close to a century to understand the aging process, with little progress until Dr. D. Harman proposed the Free Radical Theory of Aging in 1965.

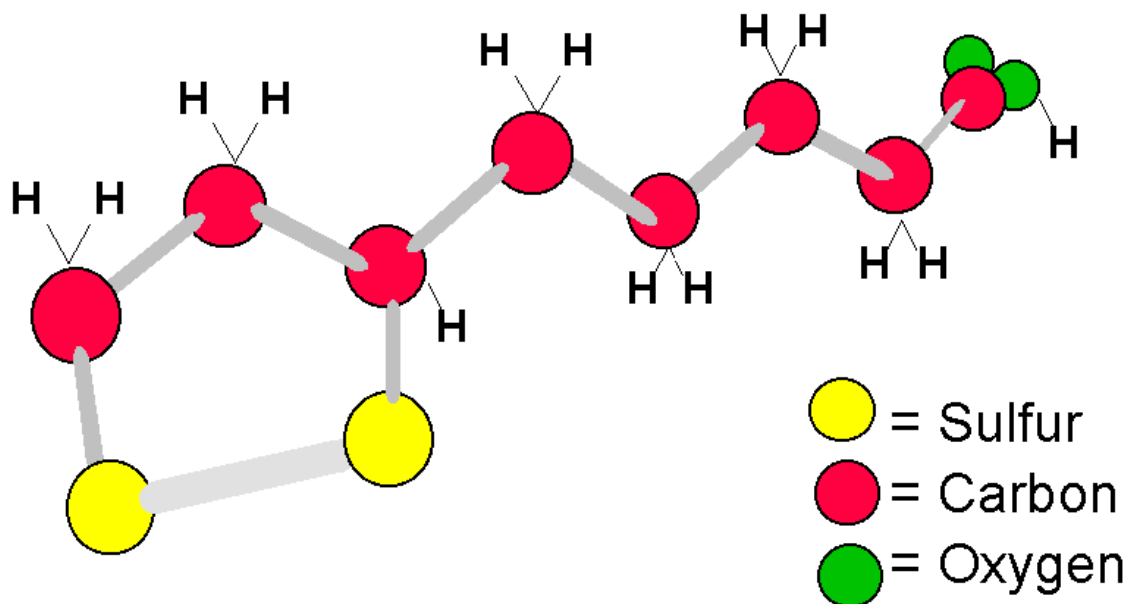
Dr Harman explained that aging was the result of damage to cellular components by free radicals, more predominantly intermediate oxygen species, which caused oxidation of proteins, lipids, cross-linking of proteins and damage to DNA.

The culmulative damage from free radical activity which is generated by the normal metabolism of the cell, as well as exposure to radation, environmental toxins, and eventually results in a cell that can no longer function. It is known now from extensive research that various diverse forms of diseases of the 20th century are initiated by free radical damage.

CAMPO RESEARCH PTE LTD, offers the most powerfuls anti-oxidants that can be topically applied and are well-documented to be stable in any given topically applicable formulation.

The anti-oxidants are Enzymes encoupled Vitamin C, DHEA, Bio-Coenzyme Q10 and Alpha-Lipoic Acid

Alpha Lipoic Acid



Alpha lipoic acid is a powerful anti-oxidant that has diverse to its effects within the cell, due unique molecular structure. It is an anti-oxidant that is both lipid and water soluble, and thus has been designated as the universal anti-oxidant. Alpha lipoic acid was first discovered in 1951 as part of an enzyme complex within the cell, which is responsible for energy production. It was later discovered that alpha lipoic acid also acted as an anti-oxidant. Because of its lipid and water solubility, lipoic acid can rapidly penetrate all portions of the cell, providing protection within the lipid cell membrane, as well as the aqueous compartment, and the nucleus. The implications of this solubility are enormous when we look at the aging process. Aging has been equated to inflammation, because both processes are mediated and perpetuated by free radical activity. Any process that causes inflammation in the cell accelerates the aging process, and prevention of inflammation has the opposite effect. All anti-oxidants act as anti-inflammatories. However, all antiinflammatories are not anti-oxidants. Alpha lipoic acid acts as an anti-inflammatory due to its unique effects within the interior of the cell. It is now known that generation of free radicals within the cell activates a messenger called nuclear factor kappa-B. Nuclear factor kappa-B, once activated b y free radicals, then enters the nucleus of the cell and attaches to the DNA molecule. The DNA molecule then translates this factor into protein production which when released into the cells cause damage and cell death.

CAMPO RESEARCH Pte Ltd
TECHNICAL SPECIFICATION

PRODUCT Name (Campo Research) Other Trade Names (Campo Research)	CAMPO ALPHA LIPOIC ACID (Powder) ALPHA LIPOIC ACID
CTFA TRADE NAME Existing CTFA/INCI Name	<i>Melia Azadirachta Leaf Extract</i> Melia Azadirachta Leaf Extract
Chinese Translation	印度楝 (MELIA AZADIRACHTA) 叶提取物
CAMPO PRODUCT # HS Code:	2000/10/0055-100 (Powder) 1302.19.0000
CTFA Monograph ID:	10740 – Melia Azadirachta Leaf Extract
CAS#	90063-92-6 – Melia Azadirachta Leaf Extract
CAS# EU	84696-25-3 / 90063-92-6 (EU) – Melia Azadirachta Leaf Extract
EINECS Number and Name	290-052-2 (1) – Melia Azadirachta Leaf Extract
EINECS# EU	283-644-7 / 290-052-2 (EU) – Melia Azadirachta Leaf Extract
EINECS Number and Name	Melia Azadirachta Leaf Extract
EINECS# EU	http://ec.europa.eu/consumers/cosmetics/cosing/index.cfm?fuseaction=search.details_v2&id=78090
European Commission–Health & Consumer Cosmetics–Cosing	Melia Azadirachta Leaf Extract - 283-644-7 / 290-052-2 (EU)
BATCH/LOT	See COA Batch Lot
SPECIES	Azadirachta indica A. Juss. Syn: Melia Azadirachta Leaf Extract
PARTS USED	Cured leaves – 99.5 %
RAW MATERIAL - ORIGIN	India
CONCENTRATION	-
COMMENTS	100% wildcrafted from Todi Aboriginal tribal land. A Quality Management System, compliant to the International Standard ISO 9001, was used to manufacture and test this material *Please take note that all specifications are liable to changes without prior notice.

Specification Parameter Analysis	Specification Range	Results	Methods
Physical Form	Powder Fine	Conforms	Visual
Colour	White to Light Cream	Conforms	Visual
Odour	Characteristic minimal	Conforms	Olfactory
Specific Gravity (20deg.C)	0.400 – 0.460	See COA	USP XXIX/Par, DMA35
Refractive Index (20deg.C)	-	-	USP XXIX/DGF IV C (52)
pH(20°C) (1% in Solution)	5.50 – 7.50	See COA	USP XXIX/DGF H III (92)
Extraction Vehicle	Liquid Nitrogen and water at 1,900 °C (minus Zero)	-	-
Water Solubility	Soluble	Conforms	-
Saponification Value	-	-	-

Viscosity	-	-	-
Dry Residue (160deg.C /2hrs)	-	-	Mettler 16J
Preservation	None	Conforms	-
Pesticide Content	None	Conforms	Pflanzaniaschuttal1989
Total Germs	<Nil CfU/ml - Non-Pathogenic	-	USP XXIX/Ph.Eur.2.6.12(97)
Total Yeast/Mold	Nil CfU/ml	-	USP XXIX/Ph.Eur.2.6.12(97)
Heavy Metals(Total)As,Pb,Hg	<0.03 ppm	-	USP XXIX/Ph.Eur.2.6.12(97)

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