

Care Creations™

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UV Filter Portfolio

Global Technical Center Sun Care | 2020

Sun Care Portfolio – UV Filters

Overview

Products	INCI	USAN	Range of Absorption			Absorbance Maximum Wavelength (nm)	Phase in Application	Appearance	Possible Application		Remarks
			UVB	UVA II	UVA I				Skin Protection	Product Protection	
Tinosorb® A2B	**TBPT** Tris-Biphenyl Triazine (nano)	–	■	■		310	Water	Dispersion of organic Particles	Yes	No	▪ Most efficient UVB/A II filter ▪ Application in all market segments ▪ Boosting effect in UVA I range
Tinosorb® M	**MBBT** Methylene Bis-Benzo-triazolyl Tetramethylbutyl-phenol (nano)	Bisoc-trizole	■	■	■	305, 360	Water	Dispersion of organic Particles	Yes	No	▪ Unique photo-stable broad-spectrum UV filter for the water phase ▪ High contribution to UVA-PF and critical wavelength (CW) ▪ Synergy effect with oil soluble UV filters due to triple action ▪ The only white-colored UVA-absorber
Tinosorb® S	**BEMT** Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine …(and) Acrylates/C12-22 Alkyl Methacrylate Copolymer	Bemo-trizinol	■	■	■	310, 345	Oil	Powder	Yes	No	▪ Most efficient oil soluble broad-spectrum UV filter ▪ Excellent photo-stability for long lasting protection ▪ Highest contribution to SPF and UVA-PF already at low concentration ▪ Outstanding stabilizer for photo-unstable UV filters ▪ Tinosorb® S Lite Aqua: water-dispersible form of Tinosorb® S for more formulation flexibility.
Tinosorb® S Lite Aqua							Water	Polymer Dispersion	Yes	No	
Uvinul® A Plus	**DHHB** Diethylamino Hydroxybenzoyl Hexyl Benzoate	–		■	■	354	Oil	Granular	Yes	Yes	▪ Photo-stability for reliable and long-lasting protection ▪ Efficient shielding against UVA radiation ▪ Excellent formulation flexibility and solubility ▪ Easy achievement of EU recommendation (UVA-PF/SPF≥1/3)
Univul® Easy	Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine (and) Diethylamino Hydroxybenzoyl Hexyl Benzoate (and) Ethylhexyl Methoxycinnamate (and) Ethylhexyl Triazone	–	■	■	■	310, 314, 345, 354	Oil	Liquid	Yes	No	▪ The easy way to achieve SPF and broad-spectrum UV protection ▪ Simply adding water to Uvinul® Easy gives a fine O/W emulsion ▪ Make your unique product by adding only thickener, preservatives and fragrances ▪ Cold processable
Uvinul® MC 80	**EHMC** Ethylhexyl Methoxycinnamate	Octinoxate	■			310	Oil	Liquid	Yes	No	▪ Excellent solvent for other crystalline UV filters ▪ UVB filter with high cosmetic elegance ▪ Odorless, colorless, suitable for perfume-free formulations
Uvinul® N 539 T	**OCR** Octocrylene	Octocrylene	■			302	Oil	Liquid	Yes	Yes	▪ Photo-stable UVB filter with good solvent properties ▪ Efficient stabilizer for photo-unstable UV filters ▪ Broad UVB absorbance for balanced UV protection
Uvinul® T 150	**EHT** Ethylhexyl Triazone	Octyltriazone	■			314	Oil	Powder	Yes	No	▪ Best efficiency even at lowest UV filter concentration ▪ Highest photo-stable absorption of all available UVB filters ▪ Odorless, colorless, suitable for perfume-free formulations
Z-Cote®	Zinc Oxide (nano)	ZnO	■	■	■	370	Water	Powder	Yes	No	▪ Inorganic broad-spectrum UV absorption ▪ Synergistic with organic UV filters ▪ enabling elegant and gentle formulations
Z-Cote®-HP1	Zinc Oxide (and) Trie-thoxycaprylylsilane (nano)						Oil				

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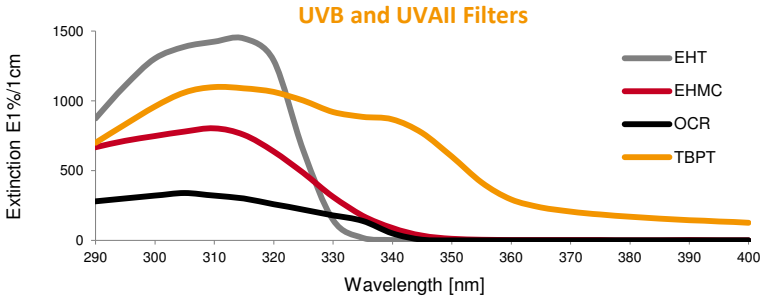
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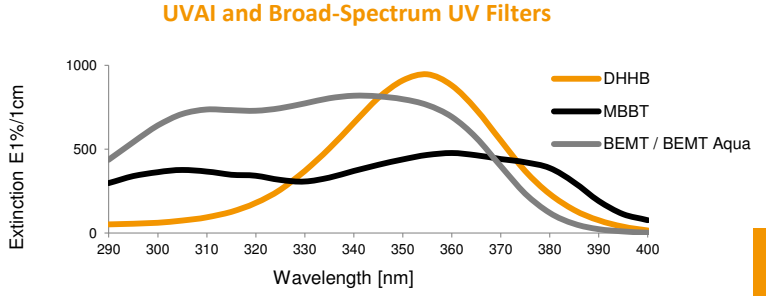
Regulatory Status and Extinction Spectra

Products	EU & Switzerland	India	Taiwan	Korea	Japan[3)]	China	Australia	ASEAN	USA	Canada	Brazil	Mexico
Tinosorb® A2B [1)]	10%	-	-	-	10%	-	10%	10%	-	-	10%	-
Tinosorb® M [1)]	10%	10%	10%	10%	10%	10%	10%	10%	[2)]	5%	10%	10%
Tinosorb® S	10%	10%	10%	10%	3%	10%	10%	10%	[2)]	6%	10%	10%
Tinosorb® S Lite Aqua [1)]	10%	10%	10%	10%	3%	10%	10%	10%	[2)]	6%	10%	10%
Uvinul® A Plus	10%	10%	10%	10%	10%	10%	10%	10%	-	-	10%	10%
Uvinul® Easy	50%	50%	50%	37%	50%	50%	50%	50%	-	-	50%	50%
Uvinul® MC 80	10%	10%	10%	0.5-7.5%	20%	10%	10%	10%	7.5%	8.5%	10%	10%
Uvinul® N 539 T	10%	10%	10%	0.5-10%	20%	10%	10%	10%	10%	12%	10%	10%
Uvinul® T 150	5%	5%	5%	0.5-5%	5%	5%	5%	5%	[2)]	-	5%	5%
Z-Cote®, Z-Cote® HP 1	25%	25%	20%	25%	No limit	11%	25%	25%	25%	25%	No limit	25%

Status January 2019

Explanation: [1)] Approval as active, e.g. 10% Tinosorb® M active = 20% Tinosorb® M; 10% Tinosorb® A2B active = 20% Tinosorb® A2B; 10% Tinosorb® S active = 50% Tinosorb® S Lite Aqua
[2)] TEA (Time and Extend Application) pending at FDA [3)] Japan: limit except for cosmetics coming into contact with mucous membranes

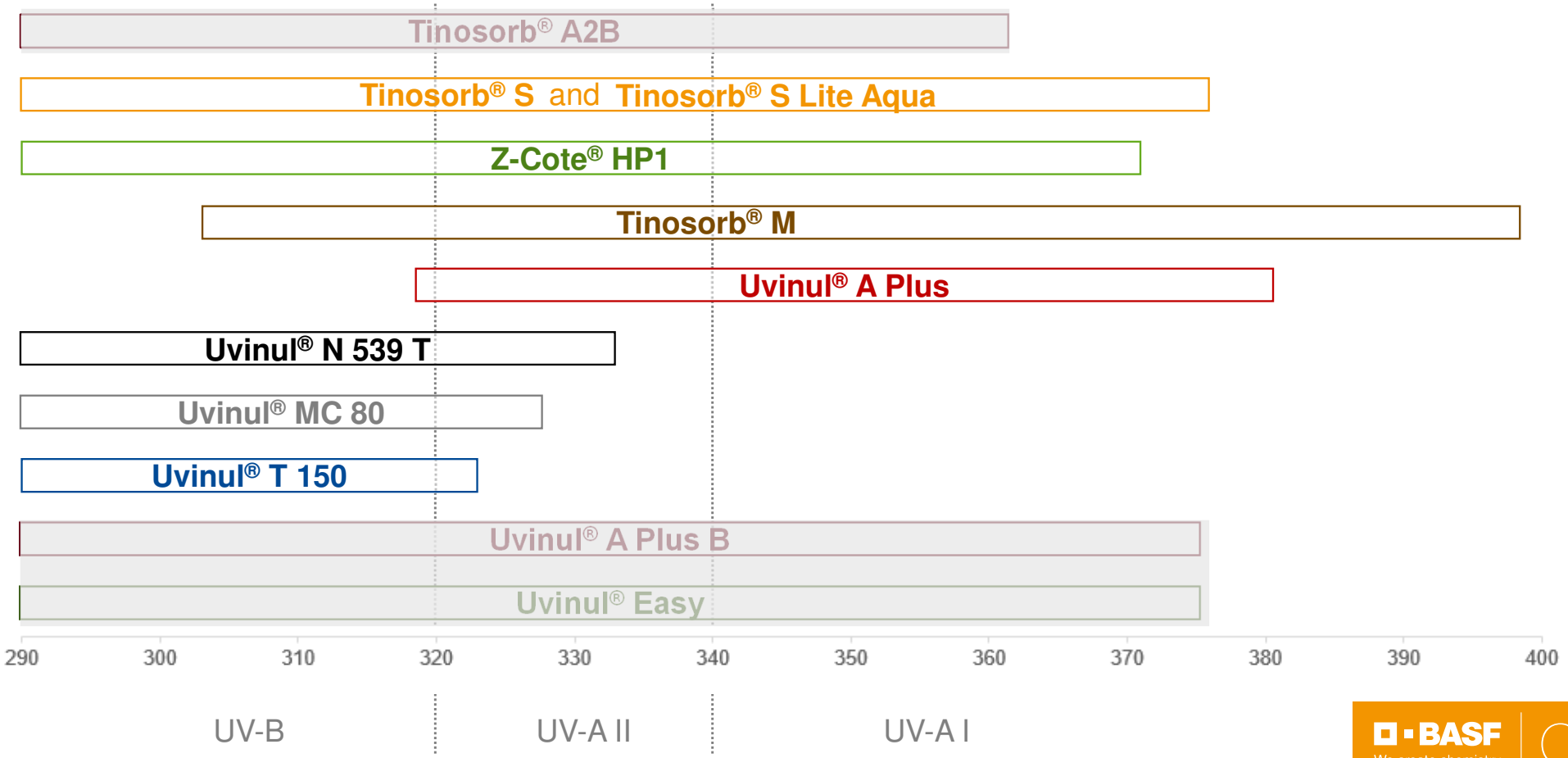




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