COLORS & EFFECTS

Timica® Pigments

Interference and Color Pigments for Color Cosmetics and Personal Care Products

Technical Information

November 2016

BASF
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Timica® Pigments

Timica luster pigments impart shimmering effects to cosmetic and personal care products, both as white pigments in a variety of lusters and as color pigments in a range of metallic and earth tones. They are free flowing powders that can be used alone or blended with other effect enhancing pigments in many cosmetic and personal care formulations to improve visual impact.

Timica White Luster Pigments

Timica white pigments vary in luster from silky to sparkly, depending on particle size distribution. Combining these grades with conventional pigments creates dimensional colored effects, enhancing the appearance of formulations.

Timica White Luster Pigments – Typical Properties

TIMICA GRADE*	COMPOSITION	PARTICLE SIZE (µm) RANGE**	DENSITY (Kg/L)	APPROX. BULK DENSITY***	
				Lb/ft^3	g/100cm^3
Pearlwhite 110A	Mica, TiO_2	10 - 56µm	3.0	9	14
Soft Luster White 6500	Mica, TiO_2	2 - 11µm	3.5	9	14
Brilliant White 020C	Mica, TiO_2	10 - 44µm	3.2	9	14
Extra Bright 1500	Mica, TiO_2	8 - 42µm	3.2	10	16
Silver Sparkle 5500	Mica, TiO_2	15 - 65µm	3.2	9	14
Sparkle 110P	Mica, TiO_2	18 - 72µm	2.8	11	17
Extra Large Sparkle 110S	Mica, TiO_2	23 - 88µm	2.9	11	17

* Please refer to individual product specification sheets for certifiable product specifications
** The particle size results will vary depending on the light scattering instrument used. The values listed (as % by weight) are the results using a Malvern Mastersizer. 80% of particles are found between the ranges noted in the table.
*** Determined by ASTM Method D-716-86

Timica Interference Colors

Timica interference colors use thin, precisely controlled films of titanium dioxide on mica to separate white light into its component parts and produce dual colors, one by reflection one by transmission, that then appear as iridescence.

Timica Interference Pigments – Typical Properties

TIMICA GRADE*	COMPOSITION	PARTICLE SIZE (µm) RANGE**	DENSITY (Kg/L)	APPROX. BULK DENSITY***	
				Lb/ft^3	g/100cm^3
Gold 230FR	Mica, TiO_2	9 - 37µm	3.2	13	21
Orange 330FR	Mica, TiO_2	9 - 37µm	3.3	13	21

TIMICA GRADE*	COMPOSITION	PARTICLE SIZE (µm) RANGE**	DENSITY (Kg/L)	APPROX. BULK DENSITY***	
				Lb/ft^3	g/100cm^3
Red 430FR	Mica, TiO_2	9 - 37µm	3.2	13	21
Violet 530FR	Mica, TiO_2	9 - 37µm	3.3	15	25

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*** Determined by ASTM Method D-716-86

Timica Metallic Luster Pigments

Timica metallic and earth colors can lend deep, warm tones to an entire range of cosmetic and personal care products. They can be used alone, blended together, or added as accents to other colors. They also add metallic sheen and highlights to eye shadows, eyeliners, lipsticks, nail enamels, hair makeup, and a host of other personal care and cosmetic formulations. The Brilliant Gold, Gold Bronze, and Copper grades are particularly effective in suntan related makeup and auxiliary products.

Timica Metallic Luster Pigments – Typical Properties

TIMICA GRADE*	COMPOSITION	PARTICLE SIZE (µm) RANGE**	DENSITY (Kg/L)	APPROX. BULK DENSITY***	
				Lb/ft^3	g/100cm^3
Brilliant Gold 212G	Mica, TiO_2, Fe_2O_3	10 - 44µm	3.1	12	18.7
Gold Sparkle 212P	Mica, TiO_2, Fe_2O_3	17 - 71µm	3	16	25.7
Radiant Gold 222G	Mica, TiO_2, Fe_2O_3	10 - 44µm	3.1	13.1	21
Golden Bronze 240A	Mica, TiO_2, Fe_2O_3	8 - 53µm	3.3	11	17.1
Copper 340A	Mica, TiO_2, Fe_2O_3	8 - 53µm	3.4	12	18.6
Pink 434FR	Mica, TiO_2, Carmine	10 - 45µm	3.1	13	21
Rouge 450FR	Mica, Fe_2O_3	8 - 40µm	3.4	10	16

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*** Determined by ASTM Method D-716-86

Timica Nu-Antique Luster Pigments

Timica Nu-Antique luster pigments can impart a blackened pearlescent appearance to a wide range of cosmetic and personal care products.

Timica Nu-Antique Luster Pigments – Typical Properties

TIMICA GRADE*	COMPOSITION	PARTICLE SIZE (µm) RANGE**	DENSITY (Kg/L)	APPROX. BULK DENSITY***	
				Lb/ft^3	g/100cm^3
Nu-Antique Silver 110AB	Mica, TiO_2, , Iron Oxides	9 - 55µm	3.1	10	15.5
Nu-Antique Gold 212GB	Mica, TiO_2, , Iron Oxides	9 - 46µm	3.3	14	21.8
Nu-Antique Bronze 240AB	Mica, TiO_2, , Iron Oxides	8 - 54µm	3.3	11	17.1
Nu-Antique Copper 340AB	Mica, TiO_2, , Iron Oxides	8 - 54µm	3.5	14	21.7

* Please refer to individual product specification sheets for certifiable product specifications
** The particle size results will vary depending on the light scattering instrument used. The values listed (as % by weight) are the results using a Malvern Mastersizer. 80% of particles are found between the ranges noted in the table.
*** Determined by ASTM Method D-716-86

Timica Terra Colors

Offering a balance of luster, transparency and color, Timica Terra Colors provide good coverage for many skin formulations. They can be used in different types of mineral make up providing a translucent and radiant skin without the look of a heavy make-up. They can also be used in emulsions, where a lower rate of sheer is needed to color the product.

Composed of platelets of natural mica combined with titanium dioxide and/or iron oxides, Timica Terra Colors are found in a wide portfolio of colors, ranging from opalescent white to intense brown.

Timica Terra Colors – Typical Properties

TIMICA GRADE*	COMPOSITION	PARTICLE SIZE (µm) RANGE**	DENSITY (Kg/L)	APPROX. BULK DENSITY***	
				Lb/ft^3	g/100cm^3
Terra White MN4501	Mica, TiO_2	4 - 12µm	3.5	15	24
Terra Yellow MN4502	Mica, Iron Oxides, TiO_2	4 - 18µm	3.5	11	18
Terra Red MN4506	Mica, Iron Oxides, TiO_2	4 - 18µm	4.0	23	36
Terra Brown MN4509	Mica, Iron Oxides, TiO_2	4 - 18µm	3.8	18	29
Terra Black MN4498	Mica, Iron Oxides, TiO_2	4 - 18µm	4.2	18	29

* Please refer to individual product specification sheets for certifiable product specifications
** The particle size results will vary depending on the light scattering instrument used. The values listed (as % by weight) are the results using a Malvern Mastersizer. 80% of particles are found between the ranges noted in the table.
*** Determined by ASTM Method D-716-86

Applications

Formulating Guidelines

Timica pigments are chemical stable under conditions normally encountered in cosmetic and personal care formulation, production, and use. However, all grades should be tested in potential formulations before commercialization in order to determine if performance will be acceptable.

Timica grades containing carmine should not be heated above 120°C and may be susceptible to fading over time upon exposure to light. If these grades are added to products packaged in transparent containers, the packaging material should contain UV absorbers to extend product shelf life.

Since regulations change over time, we recommend that appropriate use of each colorant be confirmed against each region's current cosmetic regulations.

Physical and Chemical Properties

Solubility

Timica pigments are inorganic and therefore insoluble in water.

pH

The pH of these products is measured by adding 4 grams of the pigment into 96 mL of water. This value can be found on the specification sheet. Timica Terra grades are not wettable in water and therefore cannot be measured for pH.

Specifications

For product specifications, refer to the respective specification sheet (separate document) for each Timica product.

The color additive components in the products identified in this data sheet meet the applicable FDA (21 CFR Part 73), EU Cosmetic Regulation EC/1223/2009 (Annex IV, including EC-231-2012 requirements), Japan MHW, Korean Cosmetics Colorants Standard, and China's Cosmetic Safety and Technical Standard (2015 version) specifications and purity requirements.

Microbial status for Timica products:

Total aerobic bacteria	<100 CFU/g max.
Yeast & mold	<100 CFU/g max.
Gram-negative bacteria	absent in 10g
E. coli	absent in 10g
Pseudomonas aeruginosa	absent in 10g
Staphylococcus aureus	absent in 10g

Storage

Timica pigments have storage stability of at least 10 years from the date of manufacture, provided that they are stored in unopened original containers, protected from light, and under normal conditions of temperature and humidity.

Safety Data Sheet

A Safety Data Sheet for each Timica pigment is available.

Further Product Ranges

Bi-Lite® Bismuth Oxychloride/Mica Pigments
Cellini® Colors
Chione™ Pigments
Chroma-Lite® Colors
Cloisonné® Colors
Duocrome® Iridescent Colors
Flamenco® Pearlescent and Iridescent Pigments
Gemtone® Colors
Mearlite® and Biju® Ultra Bismuth Oxychloride Pigments
Mearlmica® Specialty Performance Mica
MultiReflections™ Iridescent Pigments
Pearl-Glo® Bismuth Oxychloride Pigments
Reflecks™ Pearlescent and Iridescent Pigments and Colors
Reflecks™ Dimensions Pearlescent and Iridescent Pigments and Colors
Reflecks™ MultiDimensions Color Changing Pigments
Timica® Luster Pigments

Appendix – Timica Product Compositions

Table 1: Timica Luster Pigments

Colorant	By Weight	CI No.	CAS No.	EINECS No.
Timica Pearlwhite 110A - INCI Name: Mica (and) Titanium Dioxide				
Mica	74 – 80 %	77019	12001-26-2	310-127-6
TiO_2	20 – 26 %	77891	13463-67-7	236-675-5
Timica Soft Luster White 6500 - INCI Name: Mica (and) Titanium Dioxide				
Mica	45 – 65 %	77019	12001-26-2	310-127-6
TiO_2	35 – 55 %	77891	13463-67-7	236-675-5
Timica Brilliant White 020C - INCI Name: Mica (and) Titanium Dioxide				
Mica	73 – 80 %	77019	12001-26-2	310-127-6
TiO_2	20 – 27 %	77891	13463-67-7	236-675-5
Timica Extra Bright 1500 - INCI Name: Mica (and) Titanium Dioxide				
Mica	69 – 75 %	77019	12001-26-2	310-127-6
TiO_2	25 – 31 %	77891	13463-67-7	236-675-5
Timica Silver Sparkle 5500 - INCI Name: Mica (and) Titanium Dioxide				
Mica	76 – 87 %	77019	12001-26-2	310-127-6
TiO_2	13 – 24 %	77891	13463-67-7	236-675-5
Timica Sparkle 110P - INCI Name: Mica (and) Titanium Dioxide				
Mica	80 – 86 %	77019	12001-26-2	310-127-6
TiO_2	14 – 20 %	77891	13463-67-7	236-675-5
Timica Extra Large Sparkle 110S - INCI Name: Mica (and) Titanium Dioxide				
Mica	81 – 89 %	77019	12001-26-2	310-127-6
TiO_2	11 – 19 %	77891	13463-67-7	236-675-5

Table 2: Timica Interference Pigments

Colorant	By Weight	CI No.	CAS No.	EINECS No.
Timica Gold 230FR - INCI Name: Mica (and) Titanium Dioxide				
Mica	48 – 69 %	77019	12001-26-2	310-127-6
TiO_2	31 – 51 %	77891	13463-67-7	236-675-5
SnO_2	< 1 %	-	18282-10-5	242-159-0
Timica Orange 330FR - INCI Name: Mica (and) Titanium Dioxide				
Mica	43 – 65 %	77019	12001-26-2	310-127-6
TiO_2	35 – 56 %	77891	13463-67-7	236-675-5
SnO_2	< 1 %	-	18282-10-5	242-159-0

Colorant	By Weight	CI No.	CAS No.	EINECS No.
Timica Red 430FR - INCI Name: Mica (and) Titanium Dioxide				
Mica	42 – 64 %	77019	12001-26-2	310-127-6
TiO_2	36 – 57 %	77891	13463-67-7	236-675-5
SnO_2	< 1 %	-	18282-10-5	242-159-0
Timica Violet 530FR - INCI Name: Mica (and) Titanium Dioxide				
Mica	39 – 62 %	77019	12001-26-2	310-127-6
TiO_2	38 – 60 %	77891	13463-67-7	236-675-5
SnO_2	< 1 %	-	18282-10-5	242-159-0

Table 3: Timica Metallic Luster Pigments

Colorant	By Weight	CI No.	CAS No.	EINECS No.
Timica Brilliant Gold 212G - INCI Name: Mica (and) Titanium Dioxide (and) Iron Oxides				
Mica	53 – 69 %	77019	12001-26-2	310-127-6
TiO_2	29 – 41 %	77891	13463-67-7	236-675-5
Fe_2O_3	2 – 6 %	77491	1309-37-1	215-168-2
Timica Gold Sparkle 212P - INCI Name: Mica (and) Titanium Dioxide (and) Iron Oxides				
Mica	70 – 79 %	77019	12001-26-2	310-127-6
TiO_2	18 – 24 %	77891	13463-67-7	236-675-5
Fe_2O_3	3 – 6 %	77491	1309-37-1	215-168-2
Timica Radiant Gold 222G - INCI Name: Mica (and) Titanium Dioxide (and) Iron Oxides				
Mica	53 – 67 %	77019	12001-26-2	310-127-6
TiO_2	30 – 40 %	77891	13463-67-7	236-675-5
Fe_2O_3	3 – 7 %	77491	1309-37-1	215-168-2
Timica Golden Bronze 240A - INCI Name: Mica (and) Iron Oxides (and) Titanium Dioxide				
Mica	58 – 66 %	77019	12001-26-2	310-127-6
Fe_2O_3	32 – 38 %	77491	1309-37-1	215-168-2
TiO_2	0.2 – 4 %	77891	13463-67-7	236-675-5
Timica Copper 340A - INCI Name: Mica (and) Iron Oxides (and) Titanium Dioxide				
Mica	49 – 66 %	77019	12001-26-2	310-127-6
Fe_2O_3	33 – 47 %	77491	1309-37-1	215-168-2
TiO_2	0.2 – 4 %	77891	13463-67-7	236-675-5
Timica Pink 434FR - INCI Name: Mica (and) Titanium Dioxide (and) Carmine				
Mica	47 – 70 %	77019	12001-26-2	310-127-6
TiO_2	29 – 49 %	77891	13463-67-7	236-675-5
Carmine	1 – 4 %	75470	1390-65-4	215-724-4
SnO_2	< 1 %	-	18282-10-5	242-159-0

Colorant	By Weight	CI No.	CAS No.	EINECS No.
Timica Rouge 450FR - INCI Name: Mica (and) Iron Oxides				
Mica	42 – 64 %	77019	12001-26-2	310-127-6
Fe_2O_3	36 – 55 %	77491	1309-37-1	215-168-2

Table 4: Timica Nu-Antique Luster Pigments

Colorant	By Weight	CI No.	CAS No.	EINECS No.
Timica Nu-Antique Silver 110AB - INCI Name: Mica (and) Titanium Dioxide (and) Iron Oxides				
Mica	53 – 68 %	77019	12001-26-2	310-127-6
TiO_2	16 – 23 %	77891	13463-67-7	236-675-5
Fe_3O_4	13 – 19 %	77499	1317-61-9	215-277-5
Fe_2O_3	3 - 7 %	77491	1309-37-1	215-168-2
Timica Nu-Antique Gold 212GB - INCI Name: Mica (and) Titanium Dioxide (and) Iron Oxides				
Mica	38 – 65 %	77019	12001-26-2	310-127-6
TiO_2	23 – 36 %	77891	13463-67-7	236-675-5
Fe_3O_4	11 – 19 %	77499	1317-61-9	215-277-5
Fe_2O_3	3 – 7 %	77491	1309-37-1	215-168-2
Timica Nu-Antique Bronze 240AB - INCI Name: Mica (and) Iron Oxides (and) Titanium Dioxide				
Mica	40 – 62.8 %	77019	12001-26-2	310-127-6
Fe_2O_3	26 – 33 %	77491	1309-37-1	215-168-2
Fe_3O_4	13 – 17 %	77499	1317-61-9	215-277-5
TiO_2	0.2 – 4 %	77891	13463-67-7	236-675-5
Timica Nu-Antique Copper 340AB - INCI Name: Mica (and) Iron Oxides (and) Titanium Dioxide				
Mica	34 – 59.8 %	77019	12001-26-2	310-127-6
Fe_2O_3	27 – 45 %	77491	1309-37-1	215-168-2
Fe_3O_4	13 – 17 %	77499	1317-61-9	215-277-5
TiO_2	0.2 – 4 %	77891	13463-67-7	236-675-5

Table 5: Timica Terra Colors

Colorant	By Weight	CI No.	CAS No.	EINECS No.
Timica Terra White MN4501 - INCI Name: Mica (and) Titanium Dioxide				
Mica	48 – 59 %	77019	12001-26-2	310-127-6
TiO_2	41 – 52 %	77891	13463-67-7	236-675-5

Colorant	By Weight	CI No.	CAS No.	EINECS No.
Timica Terra Yellow MN4502 - INCI Name: Mica (and) Iron Oxides (and) Titanium Dioxide				
Mica	40.5 – 56.5 %	77019	12001-26-2	310-127-6
Yellow Iron Oxide	42 – 52 %	77492	51274-00-1	257-098-5
TiO_2	1.5 – 7.5 %	77891	13463-67-7	236-675-5
Timica Terra Red MN4506 - INCI Name: Mica (and) Iron Oxides (and) Titanium Dioxide				
Mica	40.5 – 56.5 %	77019	12001-26-2	310-127-6
Red Iron Oxide	42 – 52 %	77491	1332-37-2	215-277-5
TiO_2	1.5 – 7.5 %	77891	13463-67-7	236-675-5
Timica Terra Brown MN4509 - INCI Name: Mica (and) Iron Oxides (and) Titanium Dioxide				
Mica	35 – 62 %	77019	12001-26-2	310-127-6
Red Iron Oxide	15 – 22 %	77491	1332-37-2	215-277-5
Yellow Iron Oxide	13 – 20 %	77492	51274-00-1	257-098-5
Black Iron Oxide	4 – 8 %	77499	1317-61-9	215-277-5
Red Iron Oxide	4 – 7 %	77491	1309-37-1	215-168-2
TiO_2	2 – 8 %	77891	13463-67-7	236-675-5
Timica Terra Black MN4498 - INCI Name: Mica (and) Iron Oxides (and) Titanium Dioxide				
Mica	29.5 – 52.5 %	77019	12001-26-2	310-127-6
Black Iron Oxide	45 – 57 %	77499	1317-61-9	215-277-5
TiO_2	1.5 – 7.5 %	77891	13463-67-7	236-675-5
Red Iron Oxide	1 – 6 %	77491	1332-37-2	215-277-5

Product Range

Product	PRD-No.
Timica Brilliant Gold 212G	30302612
Timica Brilliant White 020C	30302613
Timica Copper 340A	30302614
Timica Extra Bright 1500	30302615
Timica Extra Large Sparkle 110S	30302616
Timica Gold Sparkle 212P	30302617
Timica Golden Bronze 240A	30302698
Timica Nu-Antique Bronze 240AB	30302618
Timica Nu-Antique Copper 340AB	30302619
Timica Nu-Antique Gold 212GB	30302620
Timica Nu-Antique Silver 110AB	30302621
Timica Pearlwhite 110A	30302633
Timica Radiant Gold 222G	30302634

Product	PRD-No.
Timica Silver Sparkle 5500	30302699
Timica Soft Luster White 6500	30494769
Timica Sparkle 110P	30302636
Timica Gold 230FR	30521727
Timica Orange 330FR	30521775
Timica Red 430FR	30521909
Timica Pink 434FR	30521913
Timica Rouge 450FR	30521912
Timica Violet 530FR	30521911
Timica Terra White MN4501	30558704
Timica Terra Yellow MN4502	30559137
Timica Terra Red MN4506	30565820
Timica Terra Brown MN4509	30563748
Timica Terra Black MN4498	30567434

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