



GA-Hydrophilics

The Natural Surface Treatment Derived from Trees

GA-Hydrophilics

Galactoarabinan:
the natural
ingredient used in
this surface
treatment is a
highly branched
polysaccharide
derived from
**Western Larch
Trees**, a renewable
resource with
worldwide approval





GA-Hydrophilics-Nomenclature

- **Chemical Name: Arabinogalactan**
- **INCI Name: Galactoarabinan**
 - **CAS No.: 9036-66-2**
 - **EINECS No.: 232-910-0**
- **Reach Registration: Natural/Exempt**

GA-Hydrophilics



In water based formulations, wetting and dispersion are improved by the rapidly hydrating coating

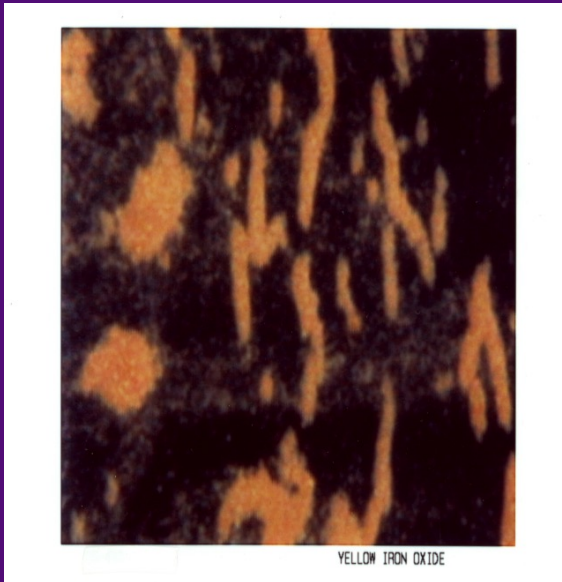
- Rapid wetting of pigments and fillers with little or no high shear agitation.
- Better pigment suspension is due to the smaller agglomerate size
- Increased color intensity
- Reduced dispersion viscosity, allowing higher pigment loading
- Galactoarabinan acts as a protective colloid, inhibiting destabilizing particle-particle attractions through steric effects, prolonging shelf life.

As for all coatings, compatibility with other formula ingredients, particularly gums and thickeners, must be assured so as not to lose the beneficial effects of the surface treatment.

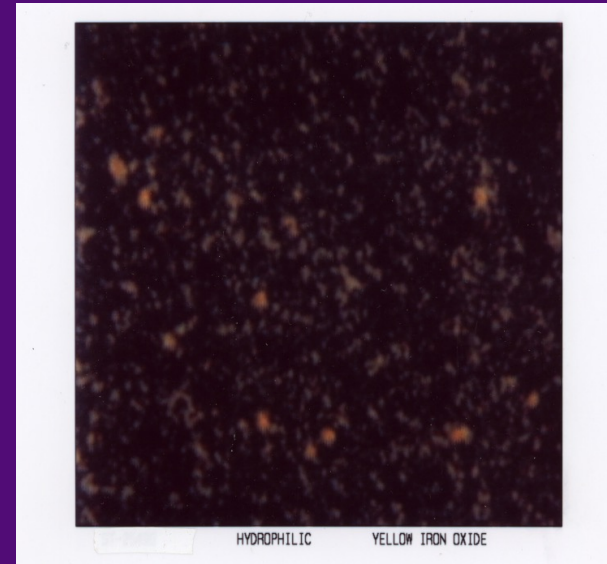
Toxicity Data

- RIPT: on 58 individuals there was no evidence of irritation or sensation to Galactoarabinan
- Dermal Irritation: There have been no known irritant effects
- Neutral Red Uptake Bioassay found Galactoarabinan to be very mild to human epidermal keratinocytes (skin cells)
- Ocular Irritation: MatTek Corporation EPI-Ocular in vitro skin model classified Galactoarabinan as a “non-irritant”
- Mutagenicity: Ames Test: not mutagenic-positive

GA-Effect on Dispersibility of Yellow Iron Oxide

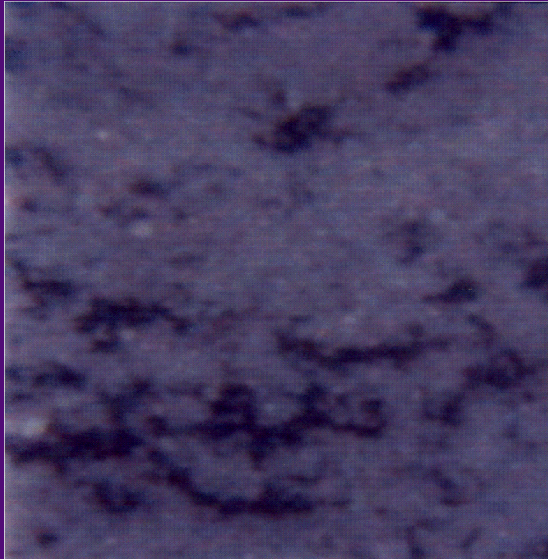


EA-1301 Yellow Iron Oxide

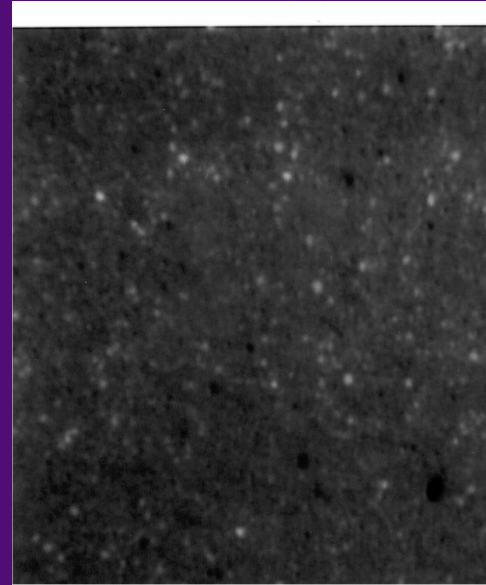


GA-7131 Hydrophilic Yellow Iron Oxide

GA-Effect on Dispersibility of Titanium Dioxide



Agglomerations



Improved Dispersion

GA-Hydrophilics Product Line

- GA-7051 Hydrophilic Mica
- GA-7131 Hydrophilic Yellow Iron Oxide
- GA-7195 Hydrophilic Brown Iron Oxide
- GA-7206 Hydrophilic Red Iron Oxide
- GA-7310 Hydrophilic Hydrated Chrome Green
- GA-7320 Hydrophilic Chromium Oxide Green
- GA-7403 Hydrophilic Black Iron Oxide
- GA-7510 Hydrophilic Ultramarine Blue



GA: Recommended Applications

Water based systems

Suspensions

Eyeliners, Mascaras

Oil in water emulsions

Rapid wetting

Complete color development

Mass tone equals skin tone

Dispersion without intensive milling





A Spectrum of Possibilities

GA Hydrophilics Mascara

GA Hydrophilic treated pigments disperse easily in water with ordinary stirring and distribute evenly in the deposited film to maximize color intensity and aid wear.

Ingredient	INCI Name	Supplier	%
Phase 1- Water Phase			
Deionized Water	Water/Aqua		43.50
Disodium EDTA	Disodium EDTA		.05
Tween® 60	Polysorbate 60	Croda	.05
Natrosol® 250 MR	Hydroxyethylcellulose	Ashland	.20
Tris Amino Ultra PC	Tromethamine	Angus Chemical Company	1.00
Deionized Water			3.00
GA-7403 Hydrophilic Black iron oxide	Iron Oxides, Galactoarabinan	Color Techniques	11.50
HOC-0801 Matte Kaolin	Kaolin Methyl Methacrylate Crosspolymer	Color Techniques	.50
Butylene Glycol	Butylene Glycol		5.00
Phase 2- Water Phase			
Emerso® I 132	Stearic Acid	Emery Oleochemicals	3.50
Cerasynt® SD	Glyceryl Stearate	Ashland	3.50
White Beeswax	Beeswax		6.50
Carnauba #1	Copernica Cerifera (Carnauba) Wax		4.50
Ganex® V-220	VP/Eicosene Copolymer	Ashland	1.00
Avalure® UR-450	PPG-17/IPDI/DMPA Copolymer	The Lubrizol Corporation	15.00
Phenoxetol®	Phenoxyethanol	Clariant	.70
Hydrolite® CG	Caprylyl Glycol	Symrise	.50
			100.00

Continued

GA Hydrophilics Mascara

Manufacturing Procedure:

Water Phase 1- Combine Water, Disodium EDTA and Tween® 60, stirring until dissolved. Add Natursol® 250 MR. Begin heating to 75° C with low speed homogenization. Dissolve TRIS Amino in water. Add to water phase. Add pigment. Continue low speed homogenization. Add Butylene Glycol. Adjust temperature to 85-90° C.

Water Phase 2- Combine and heat to 85-90° C with stirring.

Emulsification- Add wax phase 2 to Water Phase 1 with homogenization. Maintain temperature and agitation for 15 minutes. Cool to 50° C with moderate homogenization.

Add Avalure® UR-450, avoid splashing.

Cool to 45° C. Combine Phenoxetol® and Hydrolite® CG. Add to batch. Cool to 30° C with side-sweep agitation.



For samples, information or regulatory documents please contact :

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