MANNATECH SKIN CARE PRODUCT SAFETY AND EFFICACY TESTING

The Food, Drug & Cosmetics Act does not require that cosmetics be tested for safety. The U.S. Food and Drug Administration (FDA) does advise cosmetic manufacturers to employ whatever testing is appropriate and effective for substantiating the safety of their products. It remains the responsibility of the manufacturer to substantiate the safety of both ingredients and finished cosmetic products prior to marketing.

The FDA required adverse event reporting (AERs) for dietary supplements in 2007. In 1997, Mannatech initiated a Product Safety Monitoring program, overseen by a qualified physician. According to Mannatech's systematic and comprehensive monitoring system, reported health complaints are regularly reviewed for indications of possible adverse reactions from the use of our products. Mannatech also elected to use this system to track skin care product experiences. The cumulative data from this program indicate that there have been no conclusive health complaints with the Mannatech skin care line other than what might be expected in general from the use of other skin care products when known allergies or sensitivities to specific ingredients are present. Data from this program has also not revealed any serious adverse events related to the use of these products: Emprizone® gel and FIRM with Ambrotose® moisturizing cream (launched in 1995), Mannatech's LIFT skincare line (launched in 2010) and Uth™ Advanced Skin Matrix Rejuvenation Crème (launched late 2013).

Mannatech also elected to submit all cosmetic products for rigorous human safety and efficacy testing to a company with recognized expertise in this area: Thomas J. Stephens & Associates, Inc., Carrollton, TX. Sixteen clinical studies, conducted by Board Certified Dermatologists and Ophthalmologists on over 400 subjects, have validated the safety and efficacy of these products.* A summary of study details are provided below.

Product	Test	Subjects	Methods	Results	Conclusions
Uth™ Advanced Skin Matrix Rejuvenation Crème	Modified Human Repeat Insult Patch Test (HRIPT)	53 adults: 98.1% women; 100% Asian. Age: mean 40.4 years, range 23-59 years.	Occlusively patched with Uth crème or negative control 12 times at 48- to 72-h intervals.	Negative control and product was non-irritating. Product did not induce contact sensitization (allergic contact dermatitis) in any subject who completed the study.	Uth crème is hypoallergenic.

	Comedogenicity	15 adults: 73.3% women; 46.7% Caucasian, 40% Black or African American; 13.4% other ethnicities. Age: mean 31.5 years, range 21-39 years.	Occlusively patched with Uth crème or negative control 12 times at 48- to 72-h intervals.	No significant differences in size or number of microcomedones between Uth crème and negative control.	Uth crème is non-comedogenic.
	Eye Safety	31 adults with mild to moderate photodamaged skin: 83.9% women; 80.6% Caucasian, 12.9% Asian, 6.5% Hispanic/Latino. Age: mean 54.7 years, range 41-74 years.	Subjects applied Uth crème to face and eye area twice a day for 4 weeks.	Visual acuity testing and ophthalmological examination showed that Uth crème was mild and well-tolerated by all subjects.	Uth crème is safe to use around the eye area.
	Safety and efficacy		Subjects applied Uth crème to face and eye area twice a day for 8 weeks.	Products were well-tolerated and significantly improved numerous efficacy parameters at 4 and 8 weeks. Self-assessment questionnaires were positive.	Uth crème is safe and effective. It significantly improved numerous parameters, including skin firmness and lift, skin tone, and fine lines and wrinkles.
Mannatech LIFT Skin Care System: Exfoliating Facial Cleanser, Multiphase Serum, Day	HRIPT	109 adults: 79% female; 55% Caucasian, 21% Hispanic, 16% African American, 4% Asian, 4% other ethnicities. Age: mean 47 years, range 20-65 years.	Occlusively patched with products or controls (negative or positive) 9 times at 48- to 72-hour intervals. 12-24 days later, challenge patches were applied to original and naïve sites.	Negative control and products caused no experimental irritation; positive control was an experimental cumulative irritant. Products did not induce allergic contact dermatitis in any subject.	The Mannatech LIFT Skin Care System products are hypoallergenic.

Moisturizer, Night Repair Crème (each product tested separately)*	Comedogenicity	9 adults: 89% female; 67% Caucasian, 33% Hispanic. Age: mean 33 years, range 22-39 years.	Occlusively patched with products or negative control 12 times at 48- to 72-h intervals.	No significant differences in size or number of microcomedones between products and negative control.	The Mannatech LIFT Skin Care System products are non-comedogenic.
	Eye safety	28 female adults; 61% Caucasian, 21% Hispanic, 14% African American, 4% Asian. Age: mean 36 years; range 23-45 years.	Subjects applied products to face and eye area, once daily for 4 weeks.	The Night Repair Crème produced a mild, transient periocular skin response in one subject immediately after application, but this individual was able to complete the full 4 weeks with no further issues. The Multiphase Serum produced a moderate transient periocular skin response in one subject immediately after application. A rechallenge back test and two-week provocative use test revealed no additional irritation, suggesting that the subject's initial reaction was idiopathic in nature.	The Mannatech LIFT Skin Care System products are safe to use around the eye area.

	Safety and Efficacy	44 female adults with self-perceived dry skin and mild to moderate fine lines and coarse wrinkles around the eyes; 50% Caucasian, 25% Hispanic, 11.5% African American, 11.5% Asian, 2% Caucasian/Hispanic. Age: mean 49 years; range 36-63 years.	Used products for 12 weeks.	Products were well-tolerated and significantly improved all efficacy parameters at 8 and 12 weeks. Self-assessment questionnaire were overwhelmingly positive for all products.	The Mannatech LIFT Skin Care System products are safe and effective. They were hydrating and improved all efficacy parameters, including skin tone, smoothness and radiance.
Emprizone® gel	Modified HRIPT	50 adults: 86% women; 74% Caucasian, 18% Hispanic, 4% other ethnicities Age: mean 48 years, range 20-70 years.	Occlusively patched with Emprizone gel or controls (negative or positive) 9 times at 48- to 72-h intervals. 12-24 days later, challenge patches were applied to original and naïve sites.	Negative control and Emprizone gel caused no irritation; positive control was a cumulative irritant. Emprizone gel did not induce allergic contact dermatitis in any subject.	Emprizone gel is hypoallergenic.
	Comedogenicity	13 acne-prone women: 54% Caucasian, 38% African American, 8% Hispanic. Age: mean 35 years, range 24-43 years.	Occlusively patched with Emprizone gel or negative control 12 times at 48- to 72-hour intervals. 12-24 days later, challenge patches were applied to original and naïve sites.	No difference in size or number of microcomedones between Emprizone gel and negative control.	Emprizone gel is non-comedogenic.

	Safety and efficacy	10 women with mild to moderate photodamaged skin: 60% Caucasian, 30% Hispanic, 1% mixed ethnicities. Age: mean 44 years, range 33-53 years.	8 week controlled trial: applied Emprizone gel to face, after cleansing, at least once a day; applied to lower legs at least once a day and immediately after shaving.	Emprizone was well-tolerated and effective in improving facial skin condition; well-tolerated on the legs. Clinical assessments of facial photoaging, corneometer measurements of skin hydration and self-assessment questionnaires indicated improvements.	Emprizone gel is safe and effective. Significant improvements were documented in numerous parameters, including reducing irritation, reducing redness due to irrigation, relieving dry itchy skin, and soothing nicks and cuts after shaving.
FIRM with Ambrotose® Body Crème	Modified HRIPT	50 adults: 86% women; 74% Caucasian, 18% Hispanic, 4% other ethnicities. Age: mean 48 years, range 20-70 years.	Occlusively patched with FIRM crème or controls (negative or positive) 9 times at 48- to 72-h intervals. 12-24 days later, challenge patches were applied to original and naïve sites.	Negative control and FIRM crème caused no experimental irritation; positive control was an experimental cumulative irritant. FIRM crème did not induce allergic contact dermatitis in any subject.	FIRM crème is hypoallergenic.
	Comedogenicity	13 acne-prone women: 54% Caucasian, 38% African American, 8% Hispanic. Age: mean 35 years, range 24-43 years.	Occlusively patched with FIRM crème or negative control 12 times at 48- to 72-h intervals. 12-24 days later, challenge patches were applied to original and naïve sites.	No difference in size or number of microcomedones between FIRM crème and negative control.	FIRM crème is non-comedogenic.

*Individual results may vary.