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Superior Skin Benefits and Functionality Of An All-Natural, Silicone-Free, And Shea Derived Makeup Remover

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Introduction

Jarplex™ MUR is an all-natural makeup remover composed of shea butter esters and 100% plant derived alkanes. This unique combination of natural ingredients provides exceptional makeup removing benefits that outperforms current makeup removers on the market typically containing silicones, isopropyl myristate (IPM), and isopropyl palmitate (IPP). Jarplex™ MUR also does not leave a greasy or tacky after-feel and is powerful in its cleansing abilities, unlike some other natural makeup remover options that utilize coconut oil or mineral oils. This non-greasy and non-tacky product has been tested to show little to no irritation to the skin and eyes and can remove all makeup products such as lip stains, lip sticks, eye liners, and mascaras effectively.

Background

Makeup removers on the market typically contain ingredients such as non-biodegradable silicones, isopropyl myristate (IPM), and isopropyl palmitate (IPP). IPP and IPM are known to be high on the comedogenic scale and result in greater pore clogging in the skin over continuous daily use [1]. The shea butter esters in Jarplex™ MUR is derived from shea butter which contains a fatty acid composition almost entirely made of oleic acid and stearic acids [2], which are proven to be lower on the comedogenic scale [3] and thus not as pore clogging when used daily. Additionally, shea butter itself has not been reported to cause allergic reactions, and is known for its skin moisturizing, anti-inflammatory, and soothing properties [4].

Objective

To evaluate Jarplex™ MUR's superior make-up removing properties on waterproof and difficult to remove makeup items on the market against removers such as: micellar water, coconut oil, and a lotion cleanser containing IPM and synthetic silicones. To briefly review Jarplex™ MUR's mildness and non-irritancy properties using in vitro eye testing via the EpiOcular Corneal Model.

Methods

Jarplex™ MUR Removing Properties:

Two commercially waterproof and difficult to remove makeup items were utilized to show Jarplex™ MUR's removing properties against 3 other removers on the market. One product was a long-lasting liquid lip color and the other product was a waterproof eyeliner. Other removers tested included a commonly purchased micellar water product [5], coconut oil, and a makeup removing lotion cleanser [6] that includes IPM and synthetic silicones. Two layers of each makeup item was applied to clean forearms and dried for 5 minutes. Then 5 drops of each liquid remover was placed directly on top of the dried makeup. Clean cotton pads were then immediately used to wipe away the makeup for 15 swipes. A small amount of the lotion cleanser was applied directly to the skin before a cotton pad was used to wipe away with 15 swipes.

MatTek EpiOcular *In Vitro* Testing:

100 Microliters of Jarplex™ MUR and negative control, distilled water, were added to 6 well plates containing Millicells of epidermal keratinocytes at exposure times of 4 hours, 1 hour, and 20 mins. The epidermal keratinocytes are specially cultured cells to replicate corneal epithelium. Draize Scores of irritancy were determined based off percent viability results from the three exposure times.

Draize Score Description

Score	Irritancy Classification	Example	EpiOcularEt-50(Min)
0-15	Non-irritating,Minimal	PEG-75 Lanolin,Tween 20	>256 - 26.5
15.1 – 25	Mild	3% SodiumDodeylSulfate	<26.5 – 11.7
25.1 – 50	Moderate	5% Triton X-100	<11.7 – 3.45
50.1 – 110	Severe, Extreme	5%BenzalkoniumChloride	<3.45

Results

Table 1: Percent Viablility After Use of JArplex MUR Lot#701648187

Article (% & Exposure)	System	Percent Viability	Draize score results
100% - 4 hrs	EpiOcular	112	0
100% - 1 hr	EpiOcular	111	0
100% - 20 mins	EpiOcular	110	0

Table 1 shows the proportional number of viable cells proportional to the reduction of MTT in the experiment at three different time periods of exposure to Jarplex™ MUR (4 hrs., 1hr., 20 mins). Using the Draize, formula, the score of 0 was calculated for all experiments using Jarplex™ MUR, indicating that at 100%, ocular irritation is a score of 0 with a "non-irritating" irritancy classification.

Figure 1: Results of Using Various Removers on Long-Lasting Liquid Lip Color

Figure 1 shows experiment results of 4 types of removers on two dried layers of a difficult to remove long-lasting liquid lip color. Jarplex™ MUR performed the best at cleanly taking off most of the dried down liquid lip color, leaving the least amount of product visible on the skin.

Figure 2: Results of Using Various Remover on Waterproof Eyeliner

Figure 2 shows experiment results of 4 types of removers on two dried layers of waterproof eyeliner after a 5 minutes dry time. Jarplex™ MUR was comparable to other removers in ability to take off product from the skin.

Conclusion

Jarplex™ MUR, made up of shea butter esters and 100% plant derived alkanes, is overall less comedogenic than other make-up removing products on the market containing ingredients such as IPM or IPP. Unlike other natural makeup removers utilizing mineral oil or coconut oil, Jarplex™ MUR does not leave a greasy or tacky after feel and still performs exceptionally at removing staining and waterproof makeup products. When compared with three other market standard removers, Jarplex™ MUR performs the same or better while providing shea butter benefits that naturally include moisturizing, anti-inflammatory, and soothing properties.

References:

1. Fulton, James E. et al., *Comedogenicity of current therapeutic products, cosmetics, and ingredients in the rabbit ear***,** Journal of the American Academy of Dermatology , Volume 10 , Issue 1 , 96 - 105 (January 1984).
2. Okulb, JBL. Et al., *Physico-Chemical Characteristics of Shea Butter (Vitellaria paradoxa C.F. Gaertn.) Oil From The Shea Districts of Uganda*. AFJND, Vol. 10, No.1 (January 2010).
3. Fulton, James E., *Comedogenicity And Irritancy of Commonly Used Ingredients In Skin Care Products*. J. Soc. Cosmet. Chem., 40, 321-333 (November/ December 1989).
4. Malachi Oluwaseyi Israel., *Effects of Topical and Dietary Use of Shea Butter on Animals*. American Journal of Life Sciences. Vol. 2, No. 5, 2014, pp. 303-307. doi: 10.11648/j.ajls.20140205.18 (October 2014).
5. Micellar Cleansing Water Ingredient Listing: Aqua / Water, Hexylene Glycol, Glycerin, Disodium Cocoamphodiacetate, Disodium EDTA, Poloxamer 184, Polyaminopropyl Biguanide.
6. Makeup Removing Lotion Cleanser Ingredient Listing: Aqua/Water, Isohexadecane, Isopropyl Myristate, Glycerin, Cyclopentasiloxane, Sodium Acrylates Copolymer, Caprylic/Capric Triglyceride, Caprylyl Glycol, Methylparaben, Acrylates/C 10-30 Alkyl Acrylate Crosspolymer, Butylene Glycol, Imperata Cylindrica Root Extract, Hydrolyzed Opuntia Ficus-Indica Flower Extract, Moringa Pterygosperma Seed Extract, Biosaccharide Gum-4, Litchi Chinensis Extract/Litchi Chinensis Pericarp Extract, Carbomer, Ethylhexylglycerin.