



TOXICOLOGY/REGULATORY SERVICES, INC.

**CONFIDENTIAL**

Interpolymer Cosmetic Ingredient Safety Dossier

<b>Product Identification:</b>	Syntran <sup>®</sup> PC 5208
INCI Designation:	Ethylene/Styrene/Acrylates Copolymer [pending]
CAS Number:	67892-91-5
Other Designations:	108.01GR
<b>Typical Composition:</b>	
Water:	58%
Olefin-Acrylic Graft Polymer:	37%
Ethoxylated Secondary Alcohol:	3%
1,3-Butanediol:	2%
Bacterial Preservative:	0.20% methylparaben; 0.15% propylparaben
Residual Monomer:	< 5 ppm
Molecular Weight:	m + n > 100

**General Toxicity:**

**Acute Toxicity Profile:**

Because the large molecular size of this polymer limits its bioavailability and none of the components are considered to be acutely hazardous, little or no systemic toxicity would be expected by the oral, dermal and inhalation routes of exposure.

A topical application ocular irritation screening assay using the EpiOcular<sup>™</sup> human cell construct was conducted to evaluate the potential toxicity of the test article for various exposure times (2, 4, 8, 16 and 24 hours). The duration of exposure resulting in a 50% decrease MTT conversion in test article-treated EpiOcular<sup>™</sup> human cell constructs, relative to control cultures, was determined (ET<sub>50</sub>). This study resulted in an ET<sub>50</sub> value of 22.5 hours, with 41.9% cell viability at the 24-hour exposure period. Based on the results of this study, this product is classified as non-irritating to the eye (IIVS, 2004).

The lack of ocular irritation potential established by the ET<sub>50</sub> values also indicates that the product is not likely to produce dermal irritation or sensitization, since skin is less susceptible to irritation than eye tissue. In addition, a human repeated insult patch test (HRIPT) was conducted with the closely-related product, Syntran EX 105, in 100 male and female volunteer subjects to evaluate skin sensitization potential definitively. Observations throughout the test interval were within normal limits, therefore, it may be concluded that this product would not produce allergic contact sensitization following repetitive dermal exposure (CPTC, 2005).

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**Genetic Toxicity Profile:**

A reverse mutation assay using the direct plate incorporation method was conducted with the closely-related product, Syntran EX 105, in *Salmonella typhimurium* strains TA98, TA100, TA1535 and TA1537 and *Escherichia coli* WP2 *uvrA* both with and without metabolic activation. The dose levels tested were 1.5, 5.0, 15, 50, 150, 500, 1500, and 5000 µg per plate. Results were negative in the mutagenicity and confirmatory tests for this product under the conditions of the bacterial reverse mutation assay both with and without metabolic activation (BioReliance, 2005).

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**Human Toxicity Profile:**

The manufacturer is not aware of any adverse health effects that have been reported from using Syntran® PC 5208 for its intended applications or from processing it in accordance with current industrial practice.

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**Conclusion:**

Ethylene/Styrene/Acrylates Copolymer [pending] is considered safe for use in cosmetic formulations when formulated to avoid irritation. The history of this product, along with the results of the studies conducted using Syntran® PC 5208 support the current use pattern.



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**References**

BioReliance (2005) Bacterial Reverse Mutation Assay of Syntran EX 105. Unpublished Draft Report (Study No. AB06EW.503.BTL) submitted to Interpolymer Corporation, dated March 31.

CPTC [Consumer Product Testing Company] (2005) Syntran EX 105: Human Repeated Insult Patch Test. Unpublished Report (Study No. C05-0090) submitted to Interpolymer Corporation, report preparation in progress.

Institute for In Vitro Sciences (2004) "108.01GR" Topical application ocular irritation screening assay using the EpiOcular™ human cell construct. Unpublished Report (Study No. 04AA78.015001) submitted to Interpolymer Corporation, dated 3 June 2004.