

February 2, 2015

### Human Repeat Insult Patch Test (HRIPT) Summary Results

The modified human repeat insult patch test (HRIPT) was conducted to assess the potential of the following test materials to cause irritation and /or allergic contact dermatitis.

- 4994-010-A STEOL® CS-230/ NINOL® CAA
- 4947-061 NINOL® CAA
- 4685-78B BIO-TERGE® AS-40/ NINOL® CAA

The test concentrations used in the study were as follow: 1% for STEOL® CS-230/ NINOL® CAA and BIO-TERGE® AS-40/ NINOL® CAA blends, and 2% for NINOL® CAA. A total of 55 subjects completed the study.

Results:

Product	Cumulative score	Category	Classification
STEOL® CS-230/NINOL® CAA	2.73	I	Mild material-no experimental irritation
NINOL® CAA	70.0	I	Mild material-no experimental irritation
BIO-TERGE® AS-40/NINOL® CAA	42.73	I	Mild material-no experimental irritation
Negative control (purified water)	0.00	I	Mild material-no experimental irritation

In conclusion: Under the exposure conditions of this test, the standardized cumulative irritation score (Table 1), classified all three test materials, and a negative control (purified water) as 'mild material –no experimental irritation. The test materials also did not induce contact sensitization (allergic contact dermatitis) in any of the subjects completing the study.

Table 1: Cumulative Irritation Classification System

Category	Score	Results	Descriptions of observed responses
I	0 to 106.07	Mild material- no experimental irritation	Essentially no evidence of cumulative irritation
II	>106.07 to 427.5	Probably mild in normal use	Evidence of slight potential for very mild cumulative irritation
III	>427.5 to 961.07	Possibly mild in normal use	Evidence of moderate potential for mild cumulative irritation
IV	>961.07 to 1243.93	Experimental cumulative irritant	Evidence of strong potential for mild-to-moderate cumulative irritation
V	>1243.93 to 1350	Experimental primary irritant	Evidence of potential for primary irritation