



USE OF THE ATP METER (Hygiena) IN DETERMINING CONTAMINATION IN FABRIC FACIAL MASKS

METHODOLOGY: Based on "Performance Evaluation of Various ATP Detecting Units." Silliker, Inc., Food Science Center Report RPN: 13922, (2010)" and materials associated with the use of ATP meter. RLU values cannot be directly correlated to CFU values, nor can ATP tests be a replacement for microbiological tests.

PURPOSE: The Maker "IMMACULATE" has provided a product sample run of a chemical product which it proposes to make available to the public as a means of lowering the potential resulting from fabric facial mask contamination. There is no assumption that such fabric facial masks will prevent passage of virus or aspects related to contamination from the wearer or outside elements. As a large public segment has decided to wear such fabric facial protection even though there is no definitive notice from regulatory sources that they are effective, the purpose of this study is to determine only the potential reduction in contamination using an ATP measuring device to confirm upper and lower limits of contamination before and after testing.

TECHNOLOGY: The ATP meter identifies only the limits of RLU to pass an ATP test for cleanliness.

Lower Limit: The maximum allowable RLU for a result to pass the ATP test for cleanliness is testing upon a surface that reads at or below the lower limit. This is categorized as a Pass result and considered acceptable.

Upper Limit: A surface that reads above the upper limit is categorized as a Fail result and considered not adequately cleaned.

Caution Area: A surface that reads above the lower limit and at or below the upper limit is categorized as a Caution result. Caution results tell the user there could be something on the surface, but not enough to cause a Fail result. Caution areas can also show a surface is trending towards unclean and may require additional attention during the next cleaning.

EQUIPMENT UTILIZED: The testing is performed with a Hygiena Luminometer(System Sure Plus)which measures the ATP level and displays it on the result screen of the hand-held ATP measurement device. The result evaluation is based on years of food & beverage processing experience and third party studies by Hygiena for its ARP units.

RANGE OF RESULTS: The result of the ATP meter test identifies the RLU level of surface contamination even if the complete bio-burden is not removed. The Pass or Fail level determination is the result of comparing the mean results. Hygiena recommends that Pass and Fail limits be documented as to how they were determined and recorded as to the contamination level before and after testing. The sample is collected, the device activated, the RLU measured, and based on the data a decision is made as satisfaction with the after level as representative of contamination reduction or removal.

METHOD: The fabric mask test sample was placed in sterile water, shaken by hand, and then analyzed with the ATP meter using a swab bulb, activating the ATP measurement device to read the RLU result.

The following page reflects the testing replicates. These results should not be indicative of other results or results others may achieve under differing conditions or with differing types of woven product construction. These tests were conducted using cotton T-Shirt material construction and did not include other construction such as plastic fiber, no cotton fabric (such as silk), or materials which have been printed or otherwise decorated which might affect porosity. Our role was only to utilize an ATP metering device to advise test result levels of contamination on fabric face masks treated with the product.

VERIFIED RESULTS OF ATP TESTING ON FABRIC FACIAL MASK MATERIAL AVAILABLE TO THE PUBLIC

NONPROFIT EMERGING GROWTH INSTITUTE BOX 655 PLYMOUTH, FLORIDA 32768-0655

Testing Location: Apopka, Florida PERFORMED 1 March, 2020 - 21 March, 2020

Surface Type: Woven Cotton Fabric or blend as fabric face mask device (unsanctioned use)

Test Product: A compressed round chemical known as “IMMACULATE” dissolved in water. The product is intended to be used on such fabric mask material to reduce contamination levels. Application is intended to be through pan dipping or inclusion in residential washing machines. Note that no consideration is made of the effectiveness on virus transmission or reduction of virus contamination.

Replicate	INITIAL	REDUCTION	REDUCTION	
1	1302	19	3/1	1283
2	1678	14	3/1	1663
3	1319	26	3/2	1293
4	655	8	3/2	647 SHOWN ON FLYER SHEET
5	719	13	3/3	706
6	588	12	3/3	576
7	802	14	3/6	788
8	667	10	3/6	657
9	1706	21	3/8	1685
10	713	10	3/8	703
11	1452	27	3/10	1425
12	558	18	3/11	540
13	1326	24	3/15	1302
14	308	9	3/15	299
15	540	13	3/20	527
16	749	16	3/21	733

For additional information on ATP equipment availability or testing methodology consult Hygiena or other makers. Hygiena was only the source of the meter used and in no way sanctioned its use. Hygiena is a trademark of the equipment maker.