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Date: 31-Mar-2021

SMI/REF: 2101-424

Product: **AEROCLEAN IC 240** (received 27-Jan-2021)

Dilution: As received

Page 1 of 4

AMS 1452C

DISINFECTANT, AIRCRAFT; GENERAL PURPOSE

3.2.1	Concentrated Disinfectant (fluid was tested "as received")	
3.2.1.1	Flash Point	<u>Conforms</u>
3.2.1.2	Accelerated Storage Stability	
3.2.1.2.1	Elevated Temperature	<u>Conforms</u>
3.2.1.2.2	Cold Temperature	<u>Does not conform</u>
3.2.2	Concentrated Disinfectant and At Use Dilution (fluid was tested "as received")	
3.2.2.1	Corrosion of Metal Surfaces	
3.2.2.1.1	Total Immersion Corrosion	<u>Conforms</u>
3.2.2.1.2	Sandwich Corrosion	<u>Conforms</u>
3.2.2.2	Effect on Aircraft Materials	
3.2.2.2.1	Effect on Transparent Plastics	<u>Conforms</u>
3.2.2.2.2	Effect on Painted Surfaces	<u>Conforms</u>
3.2.2.2.3	Effect on Rubber	<u>Conforms</u>
3.2.2.2.4	Effect on Vinyl Surfaces	<u>Conforms</u>
3.2.2.2.5	Effect on Tedlar Surfaces	<u>Conforms</u>
3.2.3	Long Term Storage Stability	<u>Not performed</u>

Respectfully submitted,



Patricia D. Viani, SMI Inc.

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Dilution: As received
AMS 1452C

Date: 31-Mar-2021
SMI/REF: 2101-424

Page 2 of 4

3.2.1 Concentrated Disinfectant: (fluid was tested "as received")

3.2.1.1 Flash Point: Shall be not lower than 100°C (212°F), determined in accordance with ASTM D56.

As received: No Flash Point observed to 100°C (212°F)

Result Conforms

3.2.1.2 Accelerated Storage Stability: Disinfectant shall remain homogeneous and shall show no evidence of layering, separation, settling, or crystallization, determined in accordance with 3.2.1.2.1 and 3.2.1.2.2.

3.2.1.2.1 Elevated Temperature: One 6-ounce (175-ml) sample of the product shall be placed in an 8-ounce (250-ml) clear glass bottle and sealed and, from that time until the test is completed, shall be handled so as to minimize movement of the sample. The jar shall be exposed for 120 hours \pm 1 at 122°F \pm 5 (50°C \pm 3). At the end of the 120 hour period, remove sample to a room temperature environment, and allow to cool completely and examine for conformance to 3.2.1.2

As received: Homogeneous; no evidence of layering / separation

Result Conforms

3.2.1.2.2 Cold Temperature: One 6-ounce (175-ml) sample of the product shall be placed in an 8-ounce (250-ml) clear glass bottle and sealed and, from that time until the test is completed, shall be handled so as to minimize movement of the sample. The jar shall be exposed for 120 hours \pm 1 at 14°F \pm 5 (-10°C \pm 3). At the end of the 120 hour period, remove sample to a room temperature environment, and allow to cool completely and examine for conformance to 3.2.1.2.

As received: Non-homogeneous; evidence of layering / separation.

Result Does not conform

3.2.2 Concentrated Disinfectant and At Use Dilution: (fluid was tested "as received")

3.2.2.1 Corrosion of Metal Surfaces:

3.2.2.1.1 Total Immersion Corrosion: Disinfectant shall neither cause staining, pitting, or corrosion nor cause an average weight change of AMS 4049 alclad aluminum alloy panels greater than 0.3 mg/cm² per 24 hours, determined in accordance with ASTM F 483.

AS RECEIVED: 0.01 mg/cm²/24hrs

Result Conforms

Client: VeboSchmidt GmbH
 Product: **AEROCLEAN IC 240**
 Dilution: As received
AMS 1452C

Date: 31-Mar-2021
 SMI/REF: 2101-424

3.2.2.1.2 Sandwich Corrosion: Specimens of AMS 4049 alclad aluminum alloy, after test, shall show a rating not worse than 1 or not worse than control panels using ASTM D 1193, Type VI water, determined in accordance with ASTM F1110.

	RATING: AMS 4049 ALCLAD ALUMINUM
AS RECEIVED	1
CONTROL	1

Result Conforms

3.2.2.2 Effect on Aircraft Materials:

3.2.2.2.1 Effect on Transparent Plastics: Disinfectant shall not craze, stain, or discolor Type C acrylic plastic, determined in accordance with ASTM F484. Disinfectant shall not craze, stain, or discolor AMS-P-83310 polycarbonate plastic, determined in accordance with test procedures specified in ASTM F484 on specimens stressed for 10 min. \pm 1 to an outer fiber stress of 2000 psi (20MPa).

	AS RECEIVED
Type C Acrylic (MIL-P-25690) [4500 psi / 8 hours]	No craze, stain nor discoloration
Polycarbonate (AMS-P-83310) [2000 psi / 10 minutes]	No craze, stain nor discoloration

Result Conforms

3.2.2.2.2 Effect on Painted Surfaces: Disinfectant shall neither decrease the hardness of the paint film by more than two pencil hardness levels nor shall it produce any streaking, discoloration, or blistering of the paint film, determined in accordance with ASTM F502.

AS RECEIVED: *No decrease in film hardness. No evidence of streaking, discoloration or blistering.*

Result Conforms

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Date: 31-Mar-2021
SMI/REF: 2101-424

AMS 1452C

Page 4 of 4

3.2.2.2.3 Effect on Rubber: Disinfectant shall neither cause more than 25% loss of tensile strength and 25% loss in elongation nor cause more than $\pm 15\%$ change of volume, when tested on material specified by the purchaser, in accordance with ASTM D 471. The test conditioning shall be performed at room temperature and the immersion period shall be 24 hours.

Note: BMS 1-72 silicone rubber was utilized for this test

BMS 1-72 Rubber	Swelling	Change in elongation	Change in tensile strength	Result
AS RECEIVED	< 5%	< 10%	< 15%	Conforms

Result Conforms

3.2.2.2.4 Effect on Vinyl Surfaces: Disinfectant shall neither cause scratching nor more than a minimal color change or staining, when tested in accordance with ASTM F2109.

AS RECEIVED: No scratching / discoloration

Result Conforms

3.2.2.2.5 Effect on Tedlar Surfaces: Disinfectant shall neither cause scratching nor more than a minimal color change or staining, when tested in accordance with ASTM F2109.

AS RECEIVED: No scratching / discoloration

Result Conforms

3.2.3 Long Term Storage Stability: The disinfectant, as delivered, shall be tested in accordance with ASTM F1104, and shall be restorable to its original appearance by moderate shaking, and shall meet all technical requirements after the storage stability period of 1 year.

Result Not performed