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Attn: Biosphere Innovation AS
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Date: 24-Jul-2007

SMI/REF: 0705-513-R
Reissued for name change

Product: **BarrierTech**
(received 25-Jun-2007)

Dilution: Concentrate and diluted 0.6 ounces/gal

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Boeing D6-7127 Revision M (April 11, 2003)
CLEANING INTERIORS OF COMMERCIAL
TRANSPORT AIRCRAFT
Category: Disinfectants

11.3.1	Sandwich Corrosion	<u>Conforms</u>
11.3.2	Immersion Corrosion Test	<u>Conforms</u>
11.3.3	Rubber Test	<u>Conforms</u>
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11.3.11	Polycarbonate Crazing Test	<u>Conforms</u>

Respectfully submitted,



Patricia D. Viani, SMI Inc.

Client: Biosphere Innovation AS
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11.3.1 Sandwich Corrosion Test: Corrosion in excess of that on the control panel constitutes failure when tested in accordance with Section 12.1.

	Clad 7075-T6 Aluminum (AMS 4049)	Bare 7075-T6 Aluminum (AMS 4045) Anodized per MIL-A-8625 Type I
CONCENTRATE	1	1
DILUTE	1	1
Control	1	1

Result Conforms

11.3.2 Immersion Corrosion Test: The average weight change of each test specimen shall not exceed ± 10 mg in a 24 hour immersion period when tested in accordance with Section 12.2.

	CONCENTRATE (Loss per 1" x 2" panel)	DILUTE (Loss per 1"x2" panel)
Clad 2024-T3 Aluminum (QQ-A-250/5)	0.3 mg	0.1 mg
Bare 2024-T3 Aluminum (QQ-A-250/4) alodined per MIL-C-5541	0.1 mg	0.1 mg
Bare 2024-T3 Aluminum (QQ-A-250/4) anodized per MIL-A-8625 Type I	0.1 mg	0.1 mg
Bare 7178-T6 Aluminum (QQ-A-250/14) anodized per MIL-A-8625 Type I	0.1 mg	0.1 mg

Result Conforms

11.3.3 Rubber Test: Changes in properties shall not exceed the following, when tested in accordance with Section 12.3:

PROPERTY	MAX. CHANGE ALLOWED	CONCENTRATE	DILUTE
Tensile Strength	25 % loss	< 5%	< 5%
Elongation	25 % loss	< 5%	< 5%
Volume	$\pm 15\%$ change	< 5%	< 5%

24 hour immersion at room temperature

Result Conforms

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11.3.4 Sealant Test: The sealant shall not lift at the edges or lose adhesion when tested in accordance with Section 12.4.

CONCENTRATE: *Sealant did not lift at the edges or lose adhesion*

DILUTE: *Sealant did not lift at the edges or lose adhesion*

Result Conforms

11.3.5 Painted Surface Test: When tested in accordance with Section 12.5 and Section 7c., the following is required:

- a. Paint film hardness shall not decrease more than 2 pencil hardnesses.
- b. Greater than minimal color change or staining constitutes test failure.

CONCENTRATE: *0 pencil hardness change; Color change: minimal to none*

DILUTE: *0 pencil hardness change; Color change: minimal to none*

Result Conforms

11.3.6 Tedlar Surface Test: When tested in accordance with Section 12.6 and Section 7c., the following is required:

- a. Cracking, scratching or brittleness of exposed specimens constitutes test failure.
- b. Greater than minimal color change or staining constitutes test failure.

CONCENTRATE: *No scratching, color change, or staining evident*

DILUTE: *No scratching, color change, or staining evident*

Result Conforms

11.3.7 Vinyl Surface Test: When tested in accordance with Section 12.7 and Section 7c., the following is required:

- a. Cracking, scratching or brittleness of exposed specimens constitutes test failure.
- b. Greater than minimal color change or staining constitutes test failure.

CONCENTRATE: *No scratching, color change, or staining evident*

DILUTE: *No scratching, color change, or staining evident*

Result Conforms

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11.3.8 Fabric and Carpet Test: When tested in accordance with Section 12.8 and Section 7c., the following is required:

Upholstery:

- a. Greater than minimal color change or staining constitutes test failure.

CONCENTRATE: *No color change or staining*

DILUTE: *No color change or staining*

Result _____ Conforms

- b. Flammability: maximum values:

PROPERTY	MAXIMUM VALUE	CONCENTRATE	DILUTE
Extinguishing Time	15 seconds	Less than 5 seconds	Less than 5 seconds
Burn Length	8 inches	Less than 5 inches	Less than 5 inches
Drip Extinguish Time	5 seconds	Less than 3 seconds	Less than 3 seconds

Result _____ Conforms

Carpet:

- a. Greater than minimal color change or staining constitutes test failure.

CONCENTRATE: *No color change or staining*

DILUTE: *No color change or staining*

Result _____ Conforms

- b. Flammability: maximum values:

PROPERTY	MAXIMUM VALUE	CONCENTRATE	DILUTE
Extinguishing Time	15 seconds	Less than 5 seconds	Less than 5 seconds
Burn Length	8 inches	Less than 5 inches	Less than 5 inches
Drip Extinguish Time	5 seconds	Less than 3 seconds	Less than 3 seconds

Result _____ Conforms

11.3.9 Leather and Naugahyde Test: When tested in accordance with Section 12.9 and Section 7c., the following is required:

Leather:

- a. *Scratching or brittleness of exposed specimen constitutes test failure.*

CONCENTRATE: *No scratching or brittleness of exposed specimen.*

DILUTE: *No scratching or brittleness of exposed specimen.*

- b. *Greater than minimal color change or staining constitutes test failure.*

CONCENTRATE: *No color change or staining.*

DILUTE: *No color change or staining.*

Result _____ Conforms

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11.3.9 Leather and Naugahyde Test (continued):

Naugahyde: a. *Scratching or brittleness of exposed specimen constitutes test failure.*
CONCENTRATE: *No scratching or brittleness of exposed specimen.*
DILUTE: *No scratching or brittleness of exposed specimen.*
b. *Greater than minimal color change or staining constitutes test failure.*
CONCENTRATE: *No color change or staining.*
DILUTE: *No color change or staining.*

Result Conforms

11.3.10 Flash Point Test: All cleaning candidates having a flash point shall be approved by Fire Protection Engineering before they can be evaluated for use.

CONCENTRATE: *No flash point observed to 212⁰F*
DILUTE: *No flash point observed to 212⁰F*

Result Informational

11.3.11 Polycarbonate Crazing Test: Any cracking or crazing of the polycarbonate sheet constitutes failure, when tested in accordance with Section 12.11.
LEXAN 9600 (2000 psi/10 minutes)

CONCENTRATE: *No cracking or crazing*
DILUTE: *No cracking or crazing*

Result Conforms