

November 8, 2017

**CERTIFICATION**

We hereby certify that samples of the material identified below by batch number, have been analyzed in accordance with test methods that meet and/or exceed the detection limits for fluoride, chloride, and sulfur per ASME Boiler and Pressure Vessel Code, Section V, Article 6, paragraph T-641, 1998 - 2017 Editions and addenda, with the following results:

|                  |               | <b>FLUORIDE</b>        | <b>CHLORIDE</b>        | <b>SULFUR</b>          |
|------------------|---------------|------------------------|------------------------|------------------------|
|                  |               | <b>ASTM E165</b>       | <b>ASTM E165</b>       | <b>ASTM E165</b>       |
|                  |               | <b><u>ANNEX A4</u></b> | <b><u>ANNEX A4</u></b> | <b><u>ANNEX A4</u></b> |
| <b>DUBL-CHEK</b> | <b>HM-3A</b>  | <b>&lt;0.0001%BW</b>   | <b>&lt;0.0001%BW</b>   | <b>&lt;0.0001%BW</b>   |
| <b>BATCH NO.</b> | <b>74-K73</b> |                        |                        |                        |

We further certify that this material meets or exceeds the requirements of AMS 2644, MIL-I-25135, Revision E and ASTM E1417.

Copies of the certification and laboratory reports are on file in our office for your inspection.

SHERWIN INCORPORATED



Emad Assar  
R&D Chemist

Revision: August 2001

## CERTIFICATE OF CONFORMANCE

November 8, 2017

Product: HM-3A

Batch No.: 74-K73

Type: I      Methods: A and C

It is hereby certified that this material has been manufactured in accordance with, and conforms to, AMS 2644. Results of the required quality conformance tests, as stipulated by paragraph 4.3.2, are listed below.

| <u>Test Method Paragraph</u> | <u>Test Description</u>                                | <u>Results</u> |
|------------------------------|--|----------------|
| 3.3.3                        | Flash point i.a.w. ASTM D93                            | >230°F         |
| 3.3.4                        | Viscosity i.a.w. ASTM D445 at 100 ± 1°F                | 6.89 cStS      |
| 3.3.8.3.2                    | Fluorescent brightness i.a.w. ASTM E1135 (Type I only) | 83.9%          |
| 3.3.8.5                      | Water tolerance (Method A only)                        | 13.0%          |
| 3.3.8.6                      | Removability   | Conforms       |
| ---                          | Fluoride content i.a.w. ASTM E165, Annex 4             | <0.0001% BW    |
| ---                          | Chloride content i.a.w. ASTM E165, Annex 4             | <0.0001% BW    |
| ---                          | Sulfur content i.a.w. ASTM E165, Annex 4               | <0.0001% BW    |

It is further certified that this material is listed or approved for listing on QPL-AMS-2644. It also meets the requirements of MIL-I-25135E, ASTM E1417, and MIL-STD-6866.

SHERWIN INCORPORATED

Emad Assar  
R&D Chemist

Revision: January 2000

