# CERTIFICATION
# VP-31A
# BATCH # 16344

| PRODUCT | DESCRIPTION | TYPE | METHOD | SENSITIVITY | FORM | CLASS | APPROVAL DATE |
|---|---|---|---|---|---|---|---|
| VP-31A | Visible Penetrant | II | B & C | L2* | NA | NA | 19-Mar-2021 |

We hereby certify that this batch of inspection material when tested following manufacture meets the following:
*Certificamos que este lote de material de inspeccíon cumple con los siguientes requisitos cuando es probado despues de la fabricación:*

- SAE AMS 2644H and on the Qualified Products List (test reference: AFWAL/MLS 86-88).
- Flowserve
- Velan PS-008, Rev. 10
- MIL-STD-2132 ¶ 7.1.3
- ISO/FDIS 3452-2:2006, EN 571-3
- NAVSEA 250-1500-1 ¶ 12.5.1.1.1, Rev 17
- ASTM E-165/E165-12, ASTM E-1417/E1417M-16
- RCC-M edition 2000, Section V-F, sub-section F6423 ¶ 3
- Framatome ANP Seimens AG; NFQS DC 103 Rev B 2004 ¶ MC 4200
- ASME Boiler & Pressure Vessel Code 2019, Section V, Article 6, appendix II-¶-641& II-¶-642
- 10 CFR part 21 applies

PO# _____

Is free of all known Ozone depleting substances and mercury contamination and was not made in any mercury bearing equipment. Does not contain polychlorinated biphenyl (PCB), nonylphenol ethoxylates (NPE), or RoHS banned substances.
*Esta libre de todas sustancias degradantes del ozono, de contaminación de mercurio, y no fue fabricado usando equipo conteniendo mercurio. No contiene polychlorinated biphenyl (PCB), nonylphenol ethoxylates (NPE), o RoHS sustancias prohibidas.*

- Shelf life is 5 years from date of batch approval.
  *Vida útil de garantia son 5 años desde la fecha del "approval date".*
- Batch number is on bulk labels or bottom of aerosol cans.
  *Numeros de lote se encuentran en las etiquetas de los botes a granel o en el fondo de los botes de aerosol.*

| QUALITY ASSURANCE TESTS | REQUIREMENTS | BATCH RESULTS |
|---|---|---|
| Appearance: ISO 3452-2:2006(E) ¶ 7.1 | Dark red liquid, no sediment. | **Pass** |
| Density: ISO 3452-2:2006(E) ¶7.3 | 853.0 g/L - 870.7 g/L @ 21.1˚C(70˚F) | **858.8 g/L** |
| Viscosity: ASTM D-445, AMS-2644 ¶ 3.3.4, ISO 3452-2:2006(E) ¶ 7.4 | 4.4 - 5.4 $mm^2/s$ @ 37.7˚C (100˚F) | **4.5 $mm^2/s$** |
| Performance: ISO 3452-2:2006(E) ¶ 7.2 | *L2=(100% 50µ, >75% 30µ)@ 70˚F(21.1˚C | **Pass** |
| Performance: NFQS DC 1003 Rev B 2004, ¶ MC 4200. | *L2=(100% 50µ, >75% 30µ)@ 122˚F(50˚C) | **Pass** |
| Flash Point: ASTM D-93, AMS 2644 ¶ 3.3.3 | > 93.3˚C (> 200 ˚F) | **237 °F** |
| Sulfur Content: per ASTM E-165/E165M-12 ¶ 9.1.2 - Annex 4 | ≤ 200 ppm (0.02 %) | **< 200 ppm** |
| Chloride Content: ASTM E-165/E165M-12 ¶ 9.1.2 - Annex 4 | ≤ 200 ppm (0.02 %) | **< 200 ppm** |
| Total Halogen Content: ASTM E-165/E165M-12 ¶ 9.1.2 - Annex 4 | ≤ 200 ppm (0.02 %) | **< 200 ppm** |
| | | |

**MET-L-CHEK QUALITY ASSURANCE**

**BATCH TESTED BY:**

**DENNIS MASON**
QC CHEMIST

**BATCH APPROVED BY:**

**JUSTINE FORD**
PLANT CHEMIST

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