



ISO-9001 Registered Quality System.
ISO-21469 Compliant.

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PRODUCT DATA

LUBRIPLATE FMO-AW LUBRICANTS

"These products are certified OU Kosher Pareve"
"These products are Halal certified"

*NSF International H-1 & HT1 Registered
NSF ISO21469 Certification

DESCRIPTION

The LUBRIPLATE FMO-AW Series of Lubricants was developed to meet the ever-increasing demands of pressure, speed and temperature that are placed on modern food machinery. These premium food machinery lubricants are formulated with non-toxic, USP white mineral oils and are fortified with anti-oxidants, corrosion inhibitors, anti-wear agents and foam suppressants. The NSF International has registered them as H-1 lubricants, covering incidental contact with food. As such, they are acceptable as lubricants and anti-rust films on equipment and machine parts used in locations where there is exposure to edible products. These oils are all zinc-free.

APPLICATIONS

- ⇒ Hydraulics
- ⇒ Chains
- ⇒ Gearboxes
- ⇒ Air Line Lubricators
- ⇒ General Oiling

ADVANTAGES

- ⇒ Fortified with maximum strength antioxidant and are thermally and oxidatively stable.

APPROVALS

LUBRIPLATE FMO-2400-AW & FMO-1100-AW have been tested and have passed the:

- ⇒ 12 Stage Four Square Gear (FZG) Test.

LUBRIPLATE FMO-350-AW has passed the following hydraulic pump tests:

- ⇒ Vickers 35VQ25 Vane Pump Test
- ⇒ Vickers V-104C Vane Pump Test
- ⇒ Racine Model "S" Variable Volume Vane Pump Test

And meet the following specifications:

- ⇒ Vickers M-2950-S
- ⇒ Vickers I-286-S

LUBRIPLATE FMO-200-AW has also been tested against and passed:

- ⇒ Racine Model "S" Variable Volume Vane Pump Test

*Registered H-1 by NSF International for use in food processing facilities as a lubricant or anti-rust agent on equipment in which there may be incidental contact involving the lubricated part and the edible product.

The LUBRIPLATE FMO-AW Series contain no components derived from TSE/BSE relevant animal species; therefore, they are compliant with the requirements of the TSE Note for Guidance EMA/410/01 Rev. 3 July 2011.

Typical Test Data – See Back

PACKAGING AVAILABLE

| | <u>85-AW</u> | <u>150-AW</u> | <u>200-AW</u> |
|------------------------------------|--------------|---------------|---------------|
| Carton, 12/1 Quart Plastic Jugs | L0880-054 | L0879-054 | *** |
| Carton, 4/1 Gallon Plastic Jugs | L0880-057 | L0879-057 | L0881-057 |
| 5 Gallon Pail | L0880-060 | L0879-060 | L0881-060 |
| 16 Gallon Drum | L0880-061 | L0879-061 | L0881-061 |
| 55 Gallon Drum | L0880-062 | L0879-062 | L0881-062 |
| Carton, 12/12 oz. Aerosol Cans | *** | *** | *** |
| Carton, 12/14 oz. Non-Aerosol Cans | L0880-067 | *** | *** |

PACKAGING AVAILABLE

| | <u>350-AW</u> | <u>500-AW</u> | <u>900-AW</u> |
|---------------------------------|---------------|---------------|---------------|
| Carton, 12/1 Quart Plastic Jugs | *** | *** | *** |
| Carton, 4/1 Gallon Plastic Jugs | L0882-057 | L0883-057 | L0884-057 |
| 5 Gallon Pail | L0882-060 | L0883-060 | L0884-060 |
| 16 Gallon Drum | L0882-061 | L0883-061 | L0884-061 |
| 55 Gallon Drum | L0882-062 | L0883-062 | L0884-062 |
| Carton, 12/12 oz. Aerosol Cans | L0882-063 | *** | |

PACKAGING AVAILABLE

| | <u>1100-AW</u> | <u>1700-AW</u> |
|---------------------------------|----------------|----------------|
| Carton, 12/1 Quart Plastic Jugs | *** | L0887-054 |
| Carton, 4/1 Gallon Plastic Jugs | L0886-057 | L0887--057 |
| 5 Gallon Pail | L0886-060 | L0887--060 |
| 16 Gallon Drum | L0886-061 | L0887--061 |
| 55 Gallon Drum | L0886-062 | L0887--062 |

PACKAGING AVAILABLE

| | <u>2400-AW</u> | <u>3800-AW</u> |
|---------------------------------|----------------|----------------|
| Carton, 12/1 Quart Plastic Jugs | *** | *** |
| Carton, 4/1 Gallon Plastic Jugs | L0885-057 | L0888-057 |
| 5 Gallon Pail | L0885-060 | L0888-060 |
| 16 Gallon Drum | L0885-061 | L0888-061 |
| 55 Gallon Drum | L0885-062 | L0888-062 |

*NSF International H-1 Registration No.'s (Meets former USDA 1998 Guidelines)

| (85-AW) | (150-AW) | (200-AW) | (350-AW) | (500-AW) |
|----------|-----------|-----------|-----------|-----------|
| 122670 | 132661 | 122668 | 122665 | 122664 |
| (900-AW) | (1100-AW) | (1700-AW) | (2400-AW) | (3800-AW) |
| 122675 | 122687 | 122667 | 122671 | 122673 |

NSF International HT1 Registration No. (FMO-150-AW)

132661

| PROPERTY | TEST METHOD | TYPICAL RESULTS | | | | |
|----------------------------|-------------|-----------------|-------------|-------------|-------------|-------------|
| | | 85-AW | 150-AW | 200-AW | 350-AW | 500-AW |
| Viscosity SUS @ 100°F | ASTM D-2161 | 102.3 | 146 | 195.9 | 347 | 545 |
| Viscosity SUS @ 210°F | ASTM D-2161 | 39.5 | 43.6 | 47.5 | 55 | 70 |
| Viscosity cSt @ 40°C | ASTM D-445 | 21.26 | 31.39 | 46.92 | 64.61 | 94.8 |
| Viscosity cSt @ 100°C | ASTM D-445 | 3.95 | 5.41 | 6.92 | 8.52 | 11.03 |
| Viscosity Index | ASTM D-2270 | 107 | 107 | 103 | 102 | 101 |
| Color | ASTM D-1500 | L0.5 | L0.5 | L0.5 | L0.5 | L0.5 |
| Gravity | ASTM D-287 | 29.0 | 32.5 | 32.3 | 31.9 | 31.4 |
| Flash Point | ASTM D-92 | 345°F/174°C | 400°F/204°C | 455°F/235°C | 480°F/249°C | 500°F/260°C |
| Fire Point | ASTM D-92 | 365°F/185°C | 450°F/232°C | 490°F/254°C | 515°F/268°C | 555°F/291°C |
| Pour Point | ASTM D-97 | -30°F/-34°C | -20°F/-29°C | -15°F/-26°C | -10°F/-23°C | 5°F/-15°C |
| Neutralization No. | ASTM D-2896 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Aniline Point, °F | ASTM D-611 | 209 | 215 | 230 | 235 | 258 |
| ISO Viscosity Grade | ASTM D-2422 | 22 | 32 | 46 | 68 | 100 |
| AGMA No. | | *** | *** | 1 | 2 | 3 |
| 4-Ball Wear Test | ASTM D-2266 | .43 mm | .39 mm | .41 mm | .36 mm | .38 mm |
| Turbine Oil Oxidation Test | ASTM D-5846 | 10,000+ | Pending | 10,000+ | 10,000+ | 10,000+ |
| | | 900-AW | 1100-AW | 1700-AW | 2400-AW | 3800-AW |
| Viscosity SUS @ 100°F | ASTM D-2161 | 856 | 1126 | 1730 | 2350 | 3864 |
| Viscosity SUS @ 210°F | ASTM D-2161 | 83 | 97 | 120 | 142 | 198 |
| Viscosity cSt @ 40°C | ASTM D-445 | 163.5 | 206.7 | 300.7 | 428.9 | 700.1 |
| Viscosity cSt @ 100°C | ASTM D-445 | 16.09 | 18.47 | 23.25 | 29.62 | 40.98 |
| Viscosity Index | ASTM D-2270 | 102 | 99 | 96 | 98 | 98 |
| Color | ASTM D-1500 | L0.5 | L0.5 | L0.5 | L0.5 | 0 |
| Gravity | ASTM D-287 | 31.0 | 30.5 | 29.5 | 28.6 | 28.3 |
| Flash Point | ASTM D-92 | 475°F/246°C | 455°F/235°C | 440°F/227°C | 445°F/229°C | 425°F/218°C |
| Fire Point | ASTM D-92 | 530°F/277°C | 510°F/266°C | 490°F/254°C | 490°F/254°C | 475°F/246°C |
| Pour Point | ASTM D-97 | 5°F/-15°C | 10°F/-12°C | 10°F/-12°C | 15°F/-10°C | 20°F/-7°C |
| Neutralization No. | ASTM D-2896 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Aniline Point, °F | ASTM D-611 | 259 | 262 | 265 | 269 | 275 |
| ISO Viscosity Grade | ASTM D-2422 | 150 | 220 | 320 | 460 | 680 |
| AGMA No. | | 4 | 5 | 6 | 7 | 8 |
| 4-Ball Wear Test | ASTM D-2266 | .38 mm | .38 mm | .38 mm | .38 mm | .38 mm |
| Turbine Oil Oxidation Test | ASTM D-5846 | 10,000+ | 10,000+ | 10,000+ | 8,000+ | 5,000+ |

STORAGE RECOMMENDATIONS

1. Products should be stored between 40°F-120°F.
2. Products should be stored in a dry covered environment.
3. Products should not be stored in warm, direct sunlight.
4. Improper storage conditions can significantly alter the shelf life of the product. Such conditions would include temperature, moisture, open containers, etc.

