

# Product Data Sheet

## NA-LUBE<sup>®</sup> FM-1191 (Formerly KX1191)



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### SAMPLE REQUEST

**NA-LUBE FM-1191** is a liquid tungsten-based friction modifier for automotive and industrial lubricants as well as greases. **NA-LUBE FM-1191** does not contain any sulfur or phosphorus. **NA-LUBE FM-1191** is soluble in both synthetic and petroleum based stocks.

#### CHEMICAL

**COMPOSITION:** Tungsten chemistry based on organic type raw materials.

**APPEARANCE:** Clear, green-yellow liquid.

#### TYPICAL

<b>PROPERTIES:</b>	Tungsten Content	9.5% min.
	Nitrogen Content	2.0% min.
	Viscosity @ 40°C (ASTM D 445, DIN 51550)	70 mm <sup>2</sup> /s (cSt)
	Viscosity @ 100°C (ASTM D 445, DIN 51550)	5.7 mm <sup>2</sup> /s (cSt)
	Density @ 25°C (ASTM D 4052)	0.986 g/ml
	Flash Point, COC (ASTM D 92, DIN 51376)	136°C (277°F)

Note: The above analytical data are not specifications

		<u>Typical Treat Levels</u>
<b>APPLICATIONS:</b>	Automotive Lubricants	0.3% - 3.0%
	Industrial Lubricants	0.3% - 2.0%
	Greases	1.0% - 4.0%

**NA-LUBE FM-1191** is a tungsten-based friction modifier that imparts antifriction and antiwear properties to lubricants and greases. **NA-LUBE FM-1191** is a phosphorus-free and sulfur-free additive that is based on well selected organic raw materials. Synergistic friction modifier performance can be achieved by combining **NA-LUBE FM-1191** with molybdenum-based friction modifiers. **NA-LUBE FM-1191** also exhibits synergistic antioxidant properties with alkylated diphenylamines.

**ADVANTAGES:**

- \* Good friction reducing properties
- \* Non-phosphorus
- \* Non-sulfur
- \* Excellent solubility
- \* Synergistic with Mo-based friction modifiers
- \* Synergistic with alkylated diphenylaminic antioxidants

(see reverse side)

**NA-LUBE<sup>®</sup> FM-1191**  
**(Formerly KX1191)**

**SOLUBILITY:** Soluble in petroleum and synthetic lubricant base stocks and most common solvents. Insoluble in water. However, it is recommended to verify the solubility in the base oils used and the compatibility with other additives.

**STANDARD  
PACKAGING:** 440 lbs (200 kg) closed head drum.

**STORAGE  
CONDITIONS:** Store in a cool dry place away from any direct sources of heat and moisture. Maximum recommended storage temperature: 30°C (86°F)

**SHELF LIFE:** Best if used within 1 year of the date of manufacture.

**HANDLING:** Avoid all personal contact. Observe good personal hygiene. For additional information, it is advised to consult the Safety Data Sheet (SDS) for **NA-LUBE FM-1191**.

**REGISTRATION:** Please refer to Section 15 of the Safety Data Sheet for information.

For Samples or Technical Service, contact King Industries or your King representative.

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