NA-LUBE FM-1187 is a liquid molybdenum-based friction modifier for automotive and industrial lubricants as well as greases. NA-LUBE FM-1187 does not contain any sulfur or phosphorus.

**CHEMICAL COMPOSITION:** Molybdenum chemistry based on organic type raw materials.

**APPEARANCE:** Clear, cherry-brown liquid.

**TYPICAL PROPERTIES:**
- Molybdenum Content: 7.0%
- Nitrogen Content: 1.9%
- Viscosity @ 40°C (ASTM D 445, DIN 51550): 300 mm²/s (cSt)
- Viscosity @ 100°C (ASTM D 445, DIN 51550): 11 mm²/s (cSt)
- Density @ 25°C (ASTM D 4052): 0.995 g/ml
- Flash Point, COC (ASTM D 92, DIN 51376): 160°C (320°F)

Note: The above analytical data are not specifications.

**APPLICATIONS:**
- Automotive Lubricants: 0.5% - 3.0%
- Industrial Lubricants: 0.5% - 2.0%
- Greases: 1.0% - 4.0%

NA-LUBE FM-1187 is a molybdenum-based friction modifier that imparts antifriction and antiwear properties to lubricants and greases. NA-LUBE FM-1187 is a phosphorus-free and sulfur-free additive that is based on well selected organic raw materials.

When manufacturing engine oils, it is recommended to first blend the selected base oils with the additives, such as pour point depressants, viscosity improvers, and engine oil additive packages at 55°C to 70°C. NA-LUBE FM-1187 should then be added with agitation until completely dissolved.

**ADVANTAGES:**
- Good friction reducing properties
- Non-phosphorus
- Non-sulfur

(see reverse side)
NA-LUBE® FM 1187  
(Formerly KX1187)

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. It is recommended that NA-LUBE FM-1187 be added to lubricants at approximately 55°C to 70°C with agitation. Dispersants can effectively help to solubilize/disperse NA-LUBE FM-1187.

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-1187.

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.

King Industries, Inc.  
Science Road  
Norwalk, CT 06852-0588  
Tel: 203-866-5551  
Fax: 203-866-0425  
E-mail: LAD@kingindustries.com

King Industries International, Inc.  
Science Park 402,  
1098 XH Amsterdam  
Tel: +31-20-723-1970  
E-mail: info@kingintl.nl

NA-LUBE® is a registered trademark of King Industries, Inc.

The conditions of your use and application of our products, technical assistance and information (whether verbal, written or by way of product evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. Such testing has not necessarily been done by King Industries, Inc. ("King"). The facts, recommendations and suggestions herein stated are believed to be reliable; however, no guaranty or warranty of their accuracy is made. EXCEPT AS STATED, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE. KING SHALL NOT BE HELD LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES. Any statement inconsistent herewith is not authorized and shall not bind King. Nothing herein shall be construed as a recommendation to use any product(s) in conflict with patents covering any material or its use. No license is implied or granted under the claims of any patent. Sales or use of all products are pursuant to Standard Terms and Conditions stated in King sales documents.