

# Product Data Sheet

## NA-SUL<sup>®</sup> ZS



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**NA-SUL ZS** is a premium rust inhibitor for petroleum and synthetic lubricants and greases. It offers excellent demulsibility, improved oxidative stability, and resistance to the effects of water.

### CHEMICAL

**COMPOSITION:** Zinc dinonylnaphthalenesulfonate in light mineral oil.

**APPEARANCE:** Clear brown viscous liquid.

### TYPICAL

<b>PROPERTIES:</b>	Zinc Content	2.8%
	Viscosity @ 40°C (ASTM D 445, DIN 51 550)	400 mm <sup>2</sup> /s (cSt)
	Viscosity @ 100°C (ASTM D 445, DIN 51 550)	30 mm <sup>2</sup> /s (cSt)
	Density @ 15.6°C (ASTM D 4052)	0.97 g/ml
	Weight Per Gallon @ 25°C	8.1 lbs
	Flash Point, COC (ASTM D 92, DIN 51 376)	165°C (329°F)

Note: The above analytical data are not specifications.

	<u>Typical Treat Levels</u>
<b>APPLICATIONS:</b> Rust Preventive Fluids	1.00% - 15.0%
Hydraulic Fluids (HF-0, HF-2)	0.05% - 0.5%
Circulating Oils	0.05% - 1.0%
Paper Machine Oils	0.25% - 1.0%
Greases	0.50% - 3.0%
Industrial and Automotive Gear Oils	0.10% - 1.0%

**NA-SUL ZS** is used in a wide variety of industrial lubricant applications where excellent rust protection, filterability and water resistance are required. It imparts outstanding demulsibility and is unique in that the water separation improves as the **NA-SUL ZS** concentration is increased which allows high treat levels in applications with severe rust protection requirements. This product is also unique in that it enhances oxidative stability of lubricants when used in combination with primary antioxidants or secondary antioxidants such as ZnDTPs. **NA-SUL ZS** also enhances EP/AW performance when used in combination with ZnDTPs.

**NA-SUL ZS** is highly recommended for use in hydraulic fluids meeting the Denison HF-0 specification. It is also widely used as the rust and corrosion inhibitor in most types of greases. In rust preventive fluids, it exhibits excellent synergism with other functional additives such as oxidates, waxes and carboxylates.

Zinc dinonylnaphthalenesulfonate is also available in alternative diluents, including PAO and waxes.

(see reverse side)

- ADVANTAGES:**
- \* Excellent rust inhibitor
  - \* Excellent demulsibility
  - \* Excellent thermal and hydrolytic stability
  - \* Synergistic with ZnDTPs and antioxidants
  - \* Good filterability, both dry and wet
  - \* Excellent solubility in a wide range of base stocks

**TEST RESULTS:** Technical reports are available from King Industries and can be requested by contacting the offices shown below.

**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:** 420 lbs (191 kg) closed head drum.

**STORAGE CONDITIONS:** Store in a cool, dry place away from any direct source of heat and moisture. Maximum recommended storage temperature: 46°C (115°F)

**SHELF LIFE:** Best if used within 3 years from 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-SUL ZS**.

**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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