NA-SUL 1101 is a high performance ashless corrosion inhibitor specifically designed for aluminum and zinc alloys. It is soluble in most oils and polyalphaolefins (PAO). It is also very easily emulsified. Due to the acid value of NA-SUL 1101, contamination with alkaline cleaners, metalworking fluids, or other alkaline process chemicals may result in the formulation of gels or other unwanted by-products. Compatibility tests should be carried out in order to identify any negative interactions.

CHEMICAL COMPOSITION: Proprietary mixture of ammonium dinonylnaphthalenesulfonate and carboxylate derivative in light mineral oil.

APPEARANCE: Clear brown moderate viscosity liquid.

TYPICAL PROPERTIES:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashless Acid Number (ASTM D 4739)</td>
<td>125 mg KOH/g</td>
</tr>
<tr>
<td>Viscosity @ 100°C (ASTM D 445, DIN 51550)</td>
<td>35 mm²/s (cSt)</td>
</tr>
<tr>
<td>Density @ 25°C (ASTM D 4052)</td>
<td>0.96 g/ml</td>
</tr>
<tr>
<td>Weight Per Gallon @ 25°C</td>
<td>8.0 lbs</td>
</tr>
<tr>
<td>Flash Point, COC (ASTM D 92, DIN 51376)</td>
<td>160°C (320°F)</td>
</tr>
<tr>
<td>Moisture Content (ASTM E 1064)</td>
<td>&lt; 0.1%</td>
</tr>
</tbody>
</table>

Note: The above analytical data are not specifications.

APPLICATIONS:

<table>
<thead>
<tr>
<th>Application</th>
<th>Typical Treat Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosion Inhibitor (Aluminum, Zinc Alloys)</td>
<td>1.00% - 15.0%</td>
</tr>
<tr>
<td>Circulating Oils</td>
<td>0.05% - 1.0%</td>
</tr>
<tr>
<td>Metalworking Fluids (end use)</td>
<td>0.10% - 1.0%</td>
</tr>
</tbody>
</table>

NA-SUL 1101 is a highly effective corrosion inhibitor for aluminum and zinc alloys. It is soluble in a wide variety of petroleum and synthetic lubricants. It is also very easily emulsified, producing stable emulsions at a pH as low as 8. Whether in water systems or oil systems, NA-SUL 1101 provides excellent corrosion protection for aluminum and zinc alloys. Emulsions of NA-SUL 1101 do not blacken aluminum test pieces when submerged and kept at 85°C for over 16 hours.

ADVANTAGES:

* Excellent corrosion inhibitor for aluminum and zinc alloys
* Ashless
* Free flowing liquid, no melting required

(see reverse side)
NA-SUL® 1101
(Formerly KX1101)

* Low odor, does not contain petroleum oxidates
* Excellent solubility in highly paraffinic base oils and PAO
* Can be emulsified at moderate pH

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. Emulsifiable in water. It is recommended to verify the solubility in the base oils used and the compatibility with other additives.

STANDARD PACKAGING: 420 lbs (190 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: 46ºC (115ºF)

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 1101.

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. King Industries International, Inc.
Science Road Noordkade 64, 2741 EZ Waddinxveen
Norwalk, CT 06852-0588 The Netherlands
Tel: 203-866-5551 Tel: +31-182-631360
Fax: 203-866-0425 Fax: +31-182-621002
E-mail: LAD@kingindustries.com E-mail: info@kingintl.nl

NA-SUL® 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.