Lusterclean™ 11L

DESCRIPTION

Lusterclean™ 11 L is a liquid concentrate which may be used as an electrolytic cleaner, soak cleaner or cleaner/de-ruster of ferrous metals in either rack or barrel line. This product has the ability to split mineral based oils, thereby extending the life of the solution.

FEATURES AND BENEFITS

- Liquid form makes it easy to add. No dangerous splatters or dissolution problems
- Oil splitting
- May be used for rust and scale removal from steel
- Low sludging
- Free of cyanides, chromates, chlorinated, or hydrocarbon solvents
- Silicate and phosphate free; ideal where heat-treating follows cleaning operations
- Biodegradable surfactant systems

TYPICAL APPLICATIONS

- Used in job and captive shops where oil is removed and accumulated
- Heat treat operations
- Good cleaner/de-ruster for steel
OPERATING CONDITIONS

Immersion (rack or barrel) for either cleaner or cleaner/de-ruster

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration</td>
<td>6 to 35% by volume</td>
</tr>
<tr>
<td>Temperature</td>
<td>130° to 200° F</td>
</tr>
<tr>
<td>Time</td>
<td>1 to 6 minutes</td>
</tr>
<tr>
<td>Equipment</td>
<td>mild steel tanks and heating coils</td>
</tr>
<tr>
<td>Ventilation</td>
<td>suggested</td>
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</tbody>
</table>

**Notes:**
1. Skimming off soils is recommended when Lusterclean™ 11 L is being used in a soak operation.
2. When Lusterclean™ 11 L is being used as cleaner/deruster operating concentration should be in excess of 30% by volume.

- Scale or rust removal for steel and iron by electrolytic cleaning

  This may be accomplished by either an immersion method, anodic cleaning or by periodic reverse (p.r) cleaning. Heavier rust and scale will require anodic or the p.r. electro cleaning.

- Anodic electro cleaning parameters

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<tr>
<td>Concentration</td>
<td>10 to 25% by volume</td>
</tr>
<tr>
<td>Temperature</td>
<td>130° to 200° F</td>
</tr>
<tr>
<td>Current density</td>
<td>20 to 80 amps/ft2</td>
</tr>
<tr>
<td>Electrodes</td>
<td>graphite type agx (national carbon) are preferred, alternate - stainless steel type 316</td>
</tr>
<tr>
<td>Anode to cathode ratio</td>
<td>1 to 1</td>
</tr>
</tbody>
</table>

  Tank: steel, rubber lined steel preferred
  Heating and Cooling: stainless steel type 316, bent pipe
  Barrels: lucite, tempron, or polypropylene
  Tumbling barrels: steel, koroseal, rubber or neoprene lined
  Racks: steel or stainless steel, titanium or steel tips plastisol coated.

- Periodic electro-cycle
**Lusterclean™ 11L**

- **Concentration:** 10 to 30% by volume
- **Temperature:** 130° to 200° F
- **Current density:** 20 to 80 amps/ft²
- **Polarity:** periodic cycle should provide equal time on each polarity. Five to ten second intervals have been found to be a satisfactory cycle.

**Note:** (1) must end the cycle on the anodic side

- **Electrodes:** graphite type agx (national carbon) are preferred, alternate - stainless steel type 316
- **Anode to cathode ratio:** 1 to 1
- **Tank:** steel, rubber lined steel preferred
- **Heating and Cooling:** stainless steel type 316, bent pipe
- **Barrels:** lucite, tempron, or polypropylene
- **Tumbling barrels:** steel, koroseal, rubber or neoprene lined
- **Racks:** steel or stainless steel, titanium or steel tips plastisol coated.

**CONTROL**

**Titration Procedure**

1. Pipette a 10 ml. Sample into a 250 ml Erlenmeyer flask and dilute with 50 mls. of distilled water.
2. Add 4 drops methyl orange indicator and mix.
3. Titrate with 0.5 N hydrochloric acid until the color changes from orange to pink.

\[
\text{MLS of 0.5 N Hydrochloric Acid} \times 0.84 = \% \text{ BY VOLUME}
\]

**Test Kit Method**

1. Fill bottle 1/3 full of water. Add 1/2 ml (one dropper) of Lusterclean™ 11 L.
2. Add 8-10 drops methyl orange indicator
3. Add 0.72 N Hydrochloric Acid dropwise--record number of drops required for color change.

\[
\% \text{ VOLUME} = 1.11 \times \text{NUMBER DROPS OF 0.72 N Hydrochloric Acid}
\]
WASTE DISPOSAL

Discharge to a disposal system. In order to be completely informed on the latest regulations for your area, please contact the local authorities.

**CAUTION**

*Lusterclean™ 11 L* is an alkaline product and should be handled accordingly. Avoid skin and eye contact. Wear protective clothing, goggles and gloves. Flush exposed areas immediately with clean cold water. Contact a doctor promptly in case of injury. Consult MSDS for details.

**WARRANTY**

THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.