Oakite® 33

Acidic compound for cleaning, removing oxides and preparing metals for painting.

PRIMARY APPLICATION

Oakite 33 is a liquid acidic compound designed for removing light grease, oils, shop dirt, flux, rust, oxides and heat scale and for preparing metals for painting. It is also used for cleaning and conditioning aluminum prior to surface conversion processing. Another application, recommended by stainless steel manufacturers, is the use of Oakite 33 for cleaning stainless steel to remove dirt and embedded soils in the metal.

Oakite 33 meets the following Federal and Military specifications: TT-C-490, Method VI, and MIL-C10578, Type 1

CHEMICAL CHARACTERISTICS

- Chemical composition: phosphoric acid, solvents and surfactants
- Physical form: liquid
- Color: tan
- Odor: mild
- Specific gravity (approx.): 1.345 at 20°C (68°F)
- Bulk density: 1345 g/l (11.2 lb./gal)
- Viscosity: 34 to 40 cps at 20°C (68°F)
- Flash point (undiluted): none
- Hygroscopic tendency: slight
- Foaming tendency: moderate when circulated; severe when sprayed
- Recommended diluent: water
- Maximum solubility: complete
- Behavior in hard water: solubilizes hard water salts
- Rinsability: good with hot water; fair with cold water
- Biodegradable surfactants: yes
- Phosphate-free: no
- Normal working concentrations: 2 to 50% by volume
- Normal working temperatures: 27° to 60°C (80° to 140°F)
- pH at working concentrations: under 2.0 at 21°C (70°F)
- Effect of prolonged boiling: loss of solvent
The rate of metal loss from a 24-hour immersion in Oakite 33 at 5% by volume, 29°C (120°F), projected for one year, is as follows:

<table>
<thead>
<tr>
<th>metal (alloy)</th>
<th>steel (1010)</th>
<th>mm/yr</th>
<th>in/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>steel</td>
<td></td>
<td>3.12</td>
<td>0.123</td>
</tr>
<tr>
<td>stainless steel (304)</td>
<td></td>
<td>0.00</td>
<td>0.000</td>
</tr>
<tr>
<td>stainless steel (316)</td>
<td></td>
<td>0.00</td>
<td>0.000</td>
</tr>
<tr>
<td>stainless steel (403)</td>
<td></td>
<td>0.00</td>
<td>0.000</td>
</tr>
<tr>
<td>aluminum (3003)</td>
<td></td>
<td>12.14</td>
<td>0.478</td>
</tr>
<tr>
<td>galvanized steel</td>
<td></td>
<td>6.07</td>
<td>0.239</td>
</tr>
<tr>
<td>copper</td>
<td></td>
<td>0.10</td>
<td>0.004</td>
</tr>
<tr>
<td>brass</td>
<td></td>
<td>0.08</td>
<td>0.003</td>
</tr>
<tr>
<td>zinc</td>
<td></td>
<td>26.06</td>
<td>1.026</td>
</tr>
<tr>
<td>magnesium</td>
<td></td>
<td>25.25</td>
<td>0.994</td>
</tr>
</tbody>
</table>

APPLICATION PROCEDURE

By tank immersion - use at 5% to 25% by volume at 27° to 60°C (80° to 140°F) followed by rinsing and drying.

For Wipe-on-methods - use at 10% to 50% by volume at room temperature. Apply with rags or brushes, allow to soak for 2 to 20 minutes, rinse and wipe dry.

Solution Control: Concentrations are titrated using Gardotest Procedure 128. Sample Size: 1.0 mls Factor: 6.5

NOTES ON USE (See Material Safety Data Sheet)

Tanks for Oakite 33 may be made of ceramics, acid-proof brick, Karbate or stainless steel, 304 ELC, 316 ELC or 347. Do not use lead or Monel equipment or lining of rubber or the "brush-on" protective types. Heating coils should be of impervious carbon or graphite, such as Karbate Nos. 12 or 22 and Norcodal, or stainless steel 304 ELC, 316 ELC or 347. Washing machines should also be acid resistant. Oakite 33 will gradually attack ordinary steel tanks, washing machines or piping.

In food plants, the use of Oakite 33 is limited to maintenance work and operations other than in food processing areas.

Dilute solutions of Oakite 33 may tend to become turbid when heated, but will regain clarity upon cooling. The turbidity does not in any way alter the working qualities of the product.

Avoid contact or mixing with chlorine-releasing materials.

Safety and Handling Precautions: Oakite 33 is a highly acidic material containing phosphoric acid and a solvent. Direct contact causes burns of eyes and may cause burns of skin. Harmful if swallowed. It may be harmful if inhaled. Avoid contact with eyes, skin and clothing. Wear safety goggles, rubber gloves and other suitable protective clothing. Wash thoroughly after handling. Avoid breathing mist or vapor. Use with adequate ventilation Do not take internally.
First Aid in Case of Contact: Immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Remove contaminated clothing and shoes and wash before reuse. If inhaled, remove from exposure. If swallowed, wash out mouth thoroughly with water. Drink plenty of water. Contact a physician immediately. Do not induce vomiting.

KEEP OUT OF REACH OF CHILDREN

DISPOSAL

Dispose of according to all federal, state and local regulations

SHIPMENT

May be shipped by any common carrier. Freight classification is "Compound Cleaning, Liquid, (phosphoric acid) - 8, NA 1760." Product Code No: 0330.

STORAGE

Keep from freezing. While freezing will not affect Oakite 33, for convenience of use it is advisable to store indoors at moderate temperatures out of direct sunlight and away from heat. Keep container closed when not in use. Before opening drum, loosen bung slowly to relieve any pressure build-up.

- effect of high temperature storage: slight darkening
- effect of low temperature storage: slight darkening
- effect of aging: none