



Product Data

Castrol Kleen® 3652

Mild Aluminum Cleaner

Description

Castrol Kleen 3652 is a mild alkaline cleaner primarily used for cleaning aluminum. Kleen 3652 performs well in soak tanks. It is particularly effective in agitated soak systems for in-process cleaning of copper, brass and aluminum, as well as steel and cast iron. At the proper concentration, Kleen 3652 can be used on ferrous metals. However, it is not designed to provide ferrous corrosion protection.

Advantages

- Ambient temperature operation saves energy and energy dollars.
- Effectively removes a variety of soils enabling users to consolidate the number of cleaners used in the shop.
- Low spotting in applications where alkaline salt residues are unacceptable.

Characteristics

| | Unit | Test Method | Value |
|---------------------------|-----------------|-------------|---------------|
| Appearance of Concentrate | | Visual | Clear fluid |
| pH of Concentrate | | CN-TM-069 | 12.2 - 12.7 |
| pH of Solution | @ 3% | CN-TM-069 | 10.9 - 11.4 |
| Specific Gravity | @ 60° F (16° C) | CN-TM-086 | 1.035 - 1.055 |
| Bulk density | lbs/gal | | 8.7 |
| Nitrites | | | None |
| Phosphates | | | None |
| Silicates | | | Yes |

User advice

Kleen 3652 can be safely used on nonferrous metals. At 5%, Kleen 3652 can be used on ferrous metals. However, it is not designed to provide ferrous corrosion protection. Consult your Castrol Sales Engineer for questions regarding compatibility.

Recommended Applications & Dilutions

Soak tanks: 2 - 10% concentration; ambient to 180° F (82° C)

Vibratory deburring: 0.5 - 2% concentration; ambient to process temperature

Soils Removed

Crankcase and light gear oils, dyes and inks, emulsions, flux residues, grinding oils, heat treat oils, honing oils, hydraulic oils, light forming oils, light viscosity cutting oils, lubricating oils, medium viscosity cutting oils, oily-film rust preventives, swarf, dust and dirt, synthetic cutting and grinding fluids, and thin soft-film rust preventives.

Additional Information Concentration Control

By titration:

1. Place (pipet) 50 ml sample of **Kleen 3652** solution into a flask or beaker.
2. Titrate 1.0 N sulfuric acid from a buret until reaching 4.6 on the pH meter.
3. The concentration of the **Kleen 3652** solution in % (v/v) can be calculated by multiplying the volume of 1.0 N sulfuric acid in ml by the concentration factor.
4. Prior to running tests on field samples, follow the above method using a sample of known concentration to obtain the concentration factor.

Concentration factor = % known concentration/ml acid needed to reach the end point.

With Hach kit:

Add 2 vials of **Kleen 3652** solution and 1 pillow of indicator to mixing bottle. Count the drops of 1.0 N sulfuric acid required to change the color of the solution from green to pink.

| | | | | | |
|-----------------------|---|---|---|---|---|
| Concentration % (v/v) | 1 | 2 | 3 | 4 | 5 |
| Drops | 2 | 3 | 5 | 6 | 8 |

Castrol Kleen 3652
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