



Cola®Cor ACI

Aluminum Corrosion Inhibitor

CHEMICAL NAME Aluminum Corrosion Inhibitor

LISTINGS US (TSCA); Canada (DSL); Australia (AIC); Japan (ENCS); China (IECSC); Taiwan (TCSI)

Cola®Cor ACI is an aluminum corrosion inhibitor and designed to prevent corrosion for aluminum and ferrous metals. It is a water-soluble product in its free acid form and the potassium, sodium and amine salts are completely soluble in water. Cola®Cor ACI is used in synthetic, semi-synthetic and water-based metalworking fluids and demonstrates the following properties:

- Cola®Cor ACI provides protection for ferrous metals at very low concentration.
- Cola®Cor ACI salts generate very low foam and, in some instances, acts to inhibit foam formation.
- Cola®Cor ACI prevents aluminum staining at a pH up to 9.3 and reduces staining at higher pH.

TYPICAL PROPERTIES

Appearance, 25°C	Clear Liquid
pH (1% aq)	3 Max.
Moisture, %	16.0 – 20.0
Color, Gardner BYK	2 Max.
Acid Value	385 – 410

PERFORMANCE EVALUATION

Cola®Cor ACI was diluted to 0.25% (as supplied) in tap water and the pH adjusted to 9.3 with a variety of bases (MIPA, DIPA, TEA, DGA, AMP-95, KOH, NaOH). Three alloys of aluminum (AL 2024-T3, AL 6061-T6 and AL 7075-T6) were dipped half way into the solutions and photographed after 4 and 24 hours for changes in appearance. The same three alloys were also dipped into plain tap water adjusted to the same pH with TEA. With the exception of AMP-95 and TEA, less than 5ppm aluminum was recovered from the solution after 24 hours. Some representative images appear

below. Cola®Cor ACI is proven to be effective at reducing corrosion and staining in aluminum, even at high pH. TEA and AMP-95 are not recommended as neutralizers, as complete or near complete protection is well demonstrated with other bases.

Tap water with TEA after 4 hours



AL 2024-T3

AL 6061-T6

AL 7075-T6

Tap water with TEA after 24 hours



AL 2024-T3

AL 6061-T6

AL 7075-T6

Cola®Cor ACI with TEA after 4 hours



AL 2024-T3

AL 6061-T6

AL 7075-T6

Cola®Cor ACI with MIPA after 24 hours



AL 2024-T3

AL 6061-T6

AL 7075-T6

STORAGE AND HANDLING

Cola®Cor ACI is shipped in 55 gal. poly drums, net weight 500 lbs (226.7 kg) and 275 gal. totes, 2500 lbs (1020 kg). Cola®Cor ACI should be stored in closed containers. Typical shelf life is 24 months from date of manufacture. A Safety Data Sheet is available for download at www.colonialchem.com.



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