

# Technical Data Sheet

## Cola®Cor ACI

### Aluminum Corrosion Inhibitor



**LISTINGS** TSCA (US), DSL (Canada), AICS (Australia), NZIoC (New Zealand), IECSC (China)

#### DESCRIPTION

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.

**Anti-staining for aluminum:** The salts of Cola®Cor ACI protect various aluminum alloys from staining at pH up to 9.3. The recommended treat level is 5% with a minimum of 2.5% in the concentrate, which could be diluted in water for a final use level of 0.1 to 0.5%. Triazoles at low levels enhance the aluminum protection provided by Cola®Cor ACI.

**Corrosion inhibitor for ferrous metals:** Cola®Cor ACI provides good corrosion protection for ferrous metals. Combined with other corrosion inhibitors, Cola®Cor ACI boosts their performance allowing them to be used at reduced concentrations. In cast iron chip tests with tap water at pH 9.3, corrosion protection is provided at levels as low as 0.20% end use concentration compared to 0.50% for TEA salts of dicarboxylic acids.

#### TYPICAL PROPERTIES

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

#### STORAGE AND HANDLING

Cola®Cor ACI should be stored in closed containers. Frozen material may be thawed in a warm room, venting drums while warming. Shelf life is 24 months from date of manufacture. A Safety Data Sheet is available upon request.

#### PACKAGING

Cola®Cor ACI is shipped in 55 gal. poly drums or totes.

## 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 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



◀ Tap water with TEA after 24 Hours



◀ Cola®Cor ACI with TEA at 4 Hours



◀ Cola®Cor ACI with MIPA at 24 Hours

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