

Inhibitor Al

The use of aluminium and its alloys, within an expanding variety of applications, continues to increase. This versatile metal of relatively low density is used extensively as a result of its resistance to corrosion, conduction of heat and electricity, and the high strength alloys it forms with other elements.

In general use, aluminium is resistant to corrosion due to the passive layer of aluminium oxide that forms over its surface. However corrosion can occur when aluminium comes into contact with either acidic or alkaline liquids. The alkaline nature of many watermix industrial fluids can cause corrosion on aluminium and many of its alloys.

Inhibitor-AL has been designed for use in the next generation of industrial fluids, where a far greater level of aluminium corrosion protection is demanded than ever before.

Inhibitor-AL is a liquid corrosion inhibitor, based upon novel phosphorus free chemistry, with the following properties:

Aluminium specific corrosion inhibitor.

Oil soluble additive that can be used in a very wide variety of formulations.

Effective at very low concentrations (0.2 to 0.5% in a metalworking fluid concentrate).

Easy formulatory technique; has little negative effect on other fluid performance criteria.

Can be used as a tankside addition, at a maximum concentration of 0.02% in the emulsion.

Synergistic effects when combined with **Inhibitor-CU** for aerospace applications (high copper content, 7000 series aluminium alloys).

Liquid for ease of handling.

Highlighted Test Results

Inhibitor-AL tested in a watermix metalworking fluid for 48 hours (see reverse for further test results and test details)

Aluminium Grade	Test Standard	+ 0.2% Inhibitor™ AL	+ 0.5% Inhibitor™ AL
AI 2024 Chemical Composition (mass%), remainder AlSiFeCuMnMgCrZnTi0.50.53.8-4.90.3-0.91.2-1.80.10.250.15	Heavy staining	No staining	No staining
AI 5251 Chemical Composition (mass%), remainder AlSiFeCuMnMgCrZnTi0.40.50.150.1-0.51.7-2.40.150.150.15	Heavy staining	No staining	No staining
AI 6061 T Chemical Composition (mass%), remainder AlSiFeCuMnMgCrZnTi0.4-0.80.70.15-0.40.150.80.04-0.350.250.15	Slight staining	No staining	No staining

Typical Physical Properties

Form: Liquid	Flash point: ≥ 62°C	Odour: Negligible
Colour: Colourless	Density: 1.06 g/cm ³	Boiling point: Solidification ca. 160°C
Solubility: Oil	Kinematic viscosity: 5 mPa (at 20°C)	point: ca. -60°C

Please Note: This does not represent a complete specification. Full sales specification data will be supplied on request by Quality Assurance Department.

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