

BioCool – AT 153

High Performance Soluble Bio Water for Machining.

Description

Bio Water is a high-performance soluble water for machining which has no color. The product is designed for machining as well as for grinding operation of ferrous and non-ferrous metals. Bio Water contains Kaempferol Tetrahydroxy flavone which is a natural Type found in a variety of plants metabolite Flavanol which is a Conjugate acid and Kaempferol Oxonian. The Key Innovation of Bio Water Combines the Power of Acidic Cleaning found in Nature with our Powerful Alkaline Formulation to give One Bio Liquid. The Bio Water has Excellent Properties to maintain the pH at Certain Conditions.

Salient Features:

- 100% Bio-Degradable Cutting Oil
- Non-Flammable & Non-Toxic.
- Doesn't contain any petroleum product.
- High pH value.
- Color less stable emulsion.
- No foul odor.
- Designed for Multi-Metal use.
- Operator friendly.
- Forms stable emulsion up to 200 ppm of hardness of the water.
- Better rust & corrosion protection.
- Enhanced bio-stability.
- Longer sump life.
- Increase in Tool life since its water based.
- Suitable for stand-alone as well as centralized cutting coolant systems.
- Easy Oil Separation

Recommended concentration:

Operation	Mild Steel	Alloy Steel	Aluminum	Copper Alloys
Grinding & turning	3-4%	1-3%	1-3%	1-3%
Milling, Reaming, Boring	3-4%	1-3%	1-3%	1-3%
Drilling, Tapping, Threading	3-4%	1-3%	1-3%	1-3%

Coolant concentration 3% ~ 5%

pH of the emulsion should be 9 ~ 11

Application:

Metaling Application	Bio Cool AT 153	
	Enhanced Superior Stability & Bacterial Protection, Extended Sump Life & Tool Life	Helps Difficult Machining Operations & hard to Cut Corners, Superior Coolant for Extreme cutting Environment
Cast Iron	● ●	● ●
Carbon & Tool Steel	● ● ●	● ● ●
Stainless Steel	● ● ●	● ● ●
Titanium & Nickel	● ● ●	● ● ●
Aluminum	● ● ●	● ● ●
Brass, Bronze & Copper	● ● ●	● ● ●

● ● ● : Excellent

● ● : Good

● : Not Working

Concentration Control:

Maintaining the pH of the emulsion at the recommended level is important to get the optimum performance from the fluid. This also ensures the biological stability of the fluid. Proper pH control also helps in keeping the total operating cost under control.

If pH of Sump is more than the recommended level	If pH of Sump is less than the recommended level
Do not add Water to the system directly	Do not add Oil to the system directly
Addition of Lean Emulsion of 0.5-1% concentration to sump recommended	Addition of Over-strength Emulsion of 3 to 8% concentration to sump recommended

Coolant Management Guidelines:

- Ensure that before charging an emulsion the machines are clean. While preparing the emulsion always add Bio Water to DM/RO water, while addition the agitator must be on.
- Never add DM/RO water to Bio Water.
- Check the emulsion pH on regular basis. Maintenance of proper pH gives satisfactory performance.
- Always ensure to maintain the pH range between 8.5 to 11
- The top up should be done in the form of emulsion. Never add only DM/RO water or Bio Water to the sump.

Bio Water Characteristics:

Properties	Bio Cool AT 153
Color	None
Specific Gravity @30° C	<1
pH Value	12.7 ~ 13.2
Nature of Emulsion	Nano Emulsion
Emulsion @ 10 Fold Dilution	0.44
Refractometer Factor	=0
Sump Life	1 years
Flash Point	Non Flammable
KV@40° C, cSt (D-7042)	1.5
Corrosion Test	Non-Corrosive
Sulphur & Chlorine	None

Bio Water Operations:

Bio Cool AT 153			
Application	Gear Cutting, Hobbing, Drilling/Reaming & Thread Cutting Machines	Small & Medium size Nuts & Bolts Forming & Threading	Gun Drilling & Deep Hole drilling
High Speed Grinding	●	●	●
Reaming	●	●	●
Deep Hole Drilling	●	●	●
Gear Cutting	●	●	●
Broaching	●	●	●
Honing	●	●	●
Foaming	●	●	●

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