



**BHARAT PETROLEUM CORPORATION LIMITED**  
(a Government of India Enterprise)  
Lubricants Northern Region Office

<b>MAK BIO-DEGRADABLE SOLUBLE CUTTING FLUID - TEST DATA</b>				
Sl.No	Characteristics	Requirements	Method of Test	Results
1	Appearance	Clear	Visual	Clear
2	Density @ 29.5 DegC	--	P:16	0.9226
3	Ash, % by Mass, Max.	3.5	P:4	0.002
4	Water, % by Mass, Max	10	P:40	0.7
5	PH 5% solution	--		9.6
6	Emulsion test,		P:98	
	5:1 ratio in water of 400 ppm hardness (as CaCO3)	0.1 ml oil and 0.2 ml cream permitted		No Oil No Cream
	20:1 ratio in water of 400 ppm hardness (as CaCO3)	0.1 ml oil and 0.2 ml cream permitted		No Oil No Cream
7	Frothing test		P:99	
	5:1 ratio in water of 200 ppm hardness (as CaCO3)	No Froth after 15 minutes		No Froth
	20:1 ratio in water of 200 ppm hardness (as CaCO3)	No Froth after 15 minutes		No Froth
8	Cast Iron Corrosion Test, 20:1 ration emulsion with 400 ppm hard water (as CaCO3), Max	0/1-1	Appendix A of IS-1115	0/0-0
9	Copper Corrosion test at 100 Deg C for 3 hours	Not worse than 1	P:15	1a
10	Thermal stability test at 50 Deg C and 0 Deg C for 16 hrs	Shall pass the test	P:100	Pass
11	Flash Point, COC, Deg C, Min	150	P:69	152
12	Viscosity at 40 Deg C, Cst, Min	20	P:25	49.84
13	Volatile matter at 100 Deg C for 16 hours, % by Mass, Max	20	Appendix B of IS-1115	14.32