

## 3M Novec™ 612 Magnesium Protection Fluid

Category : Fluid

### Material Notes:

Novec 612 fluid, dodecafluoro-2-methyl-3-pentanone or  $(CF_3CF_2C(O)CF(CF_3)_2)$ , is a clear, colorless, and low odor fluid. Its properties, environmental profile, and margin of safety make it a sustainable material for protecting molten reactive metals such as magnesium and its alloys. Novec 612 fluid has the advantage of being a liquid at room temperature. This makes it easy to transport in conventional liquid containers of all sizes. Because of its low viscosity, Novec 612 fluid also is easy to transfer by pumping. Yet it quickly and easily evaporates into a gas stream for use as a cover gas because of its high vapor pressure and low heat of vaporization. Information provided by 3M

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_3M-Novec-612-Magnesium-Protection-Fluid.php](http://www.lookpolymers.com/polymer_3M-Novec-612-Magnesium-Protection-Fluid.php)

Physical Properties	Metric	English	Comments
Density	1.60 g/cc	0.0578 lb/in <sup>3</sup>	Sat. Liquid
	0.0136 g/cc @Pressure 0.101 MPa	0.000491 lb/in <sup>3</sup> @Pressure 14.7 psi	Gas
Viscosity Measure	0.39 cSt	0.39 cSt	Liquid
Molecular Weight	316.04 g/mol	316.04 g/mol	
Vapor Pressure	0.404 bar	303 torr	

Thermal Properties	Metric	English	Comments
Heat of Vaporization	88.0 J/g	37.9 BTU/lb	at boiling point
Specific Heat Capacity	1.103 J/g-°C	0.2636 BTU/lb-°F	Liquid
	0.891 J/g-°C @Pressure 0.101 MPa	0.213 BTU/lb-°F @Pressure 14.7 psi	Vapor
Boiling Point	49.2 °C	121 °F	
	@Pressure 0.101 MPa	@Pressure 14.7 psi	

Chemical Properties	Metric	English	Comments
Critical Pressure	18.65 bar	13990 torr	
Critical Temperature	168.7 °C	335.7 °F	
Critical Density	0.639 g/cc	0.0231 lb/in <sup>3</sup>	

Descriptive Properties	Value	Comments
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Relative Dielectric Strength Descriptive Properties	2.3 Value	1 atm (N<sub>2</sub>=1.0) Comments
Solubility of Water	<0.001%	in Novec 612 Fluid

## Contact Songhan Plastic Technology Co.,Ltd.

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