



COOLING

THERMASOLV™ CF1

DIELECTRIC HEAT TRANSFER FLUID
BOILING POINT: 170°C/338°F
HIGH CRITICAL TEMPERATURE

BENEFITS

THERMASOLV CF1 is a dielectric heat transfer fluid, dedicated for 1-phase immersion or direct cooling systems. Its high electrical insulation properties allows to immerse electronics & electrical devices under power in the fluid. The favorable characteristics of the product's viscosity, density and surface tension allows optimal surface contact, which contributes to a superior heat transfer performance.

The very good compatibility with all metals, a wide range of plastics & elastomers and the chemical stability of the fluid, makes THERMASOLV CF1 an ideal fluid for immersion cooling.

The chemical nature of THERMASOLV CF1 makes it also a suitable product as a tacky agent for preform die-attach soldering process. It is easy to spray and leaves no residues after evaporation in the reflow step.

THERMASOLV CF1 is formulated with safety in mind. It is non-toxic, has no mentioning of any EUH-phrases, is non-flammable and has no flash point.

PERFORMANCE	<ul style="list-style-type: none"> Excellent thermal conductivity Very low surface tension High electrical insulation Low kinetic viscosity & low freezing point limit the load on pumps
COST	<ul style="list-style-type: none"> Thermally and chemically stable in use Can be returned for recycling and re-use
HSE	<ul style="list-style-type: none"> No Ozon depletion potential (ODP) Non-flammable & no flashpoint

SPECIFICATIONS

SPECIFICATIONS	VALUES	METHODS
Aspect	Colorless, clear	Visual
Purity (%)	>99,5	Internal / MO.SB.10033

CHARACTERISTICS

CHARACTERISTICS	VALUES
Flash point	No
Boiling point	170°C/338°F
Pour Point	-100°C/-148°F
Critical Temperature	300°C/572°F
Vapor pressure (kPa @20°C)	0,1
Liquid density (Kg/m ³ @20°C)	1770
Kinematic viscosity (cSt @20°C)	1,81
Specific Heat (J/kg-K @25°C)	1026
Surface tension (dynes/cm ²)	17
Dielectric strength (kV)	>40
Dielectric Constant @1kHz	1,84
Resistivity (Ohm-cm)	1,00E+13
Thermal conductivity (W/m-K)	0,111
Water content spec (ppm)	15
Solubility water in fluid (ppm weight)	<14

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PROCESS RECOMMENDATION

The best process will depend on factors such as operating conditions & equipment. Our team is ready to advise you.

Although this product has very good compatibility properties, we cannot foresee all materials that could be exposed to the fluid. We strongly recommend testing before use.

PROCESSES

The product can be used in the following processes:

- Immersion cooling (only 1-phase)
- Direct cooling, where the fluid flows through cold plates or tubes (only 1-Phase)
- Specific manufacturing processes which need stable and uniform cooling
- Dielectric testing
- Tacky agent for preform die-attach soldering

TEMPERATURE LIMITS

1-phase system

- Recommended Temperature Minimum: -100°C/-148°F
- Recommended Temperature Maximal: 160°C/320°F

PACKAGING, STORAGE & SHELF LIFE

- Store products in their original, sealed packaging in a dry place, preferably at temperatures below 40°C/104°F to prevent packaging distortion and leaks. Keep packaging away from direct sunlight.
- Shelf life is minimum 5 years from production date when kept in recommended conditions. The shelf life provides a guarantee of delivering new product and proper storage (no packaging leakages, no accidentally contamination). Once the product is used in a process it is designed for, there is no degradation of quality or performance over time.

AVAILABLE PACKAGING



8KG JERRYCAN



15KG JERRYCAN



250KG DRUM

Please verify the packaging details, including volume and availability, with your sales representative, as they may vary depending on the production facility where the product is manufactured.

HEALTH, SAFETY & ENVIRONMENT

THERMASOLV CF1 is **NOT** a **GREENWAY** product. Although fully in line with safety & environmental regulations, this product doesn't match our strict criteria to be labelled as a Greenway product. More info on our Greenway concept via this [link](#)



LOOKING FOR A MORE SUSTAINABLE SOLUTION?

GREENWAY ALTERNATIVE

- THERMASOLV CF6

PROPERTIES	CF1
ODP	0,00
GWP	7800
VOC	yes
Flashpoint	no

Contains no Reach Substances (on Candidate list, Annex XIV & XVII) / Contains no persistent organic pollutant (EC 850/2004) / Contains no Import/Export Hazardous substances (EU 649/ 2012).

In accordance with the Annex II of Directive 2011/65/UE (RoHS), including its amendments, we certify that this product does not contain quantities above 0.1% of Hg, Pb, Cr VI, PBB, PBDE, DEHP, BBP, DBP, DIBP and above 0.01% of Cd.

Used polluted product can be returned to us for recycling if regulations permit. Please contact your local sales contact for more details on our **ECOPROGRAM**.

Please refer always to the Safety Data Sheet (SDS or MSDS) prior to use. Our SDS can be downloaded at www.quickfds.com. We will request to provide your email address, so we can automatically send you a new version of the SDS when a future update would occur.

TECHNICAL SUPPORT & FREE-OF-CHARGE TESTING

Inventec has a worldwide dedicated Technical Support team to help you along the different stages of our cooperation.

Depending on your request, we provide online or onsite support

- to select the right product based on your specific needs
- to assist you in your product qualification process
- to guide you with the initial set up of your process at all your worldwide manufacturing facilities
- to provide fast response on technical issues which could occur at any time during mass production

Contact our technical support via contact@inventec.dehon.com or your local sales representative.

ABOUT INVENTEC

Inventec is a global provider of CLEANING, SOLDERING, COATING and COOLING materials for Electronic, Semiconductor and Industrial applications. For over 60 years we have shown leadership in innovation by putting HEALTH IMPACT, SUSTAINABILITY and RELIABILITY at the core of our product development.

With ISO 9001 & 14001 production sites in France, Switzerland, USA, Mexico, Malaysia and China we can guarantee a smooth and cost-effective supply chain.

We supply to many industries but the excellent performance of our products in applications which demand high reliability, leads us to focus especially on the AUTOMOTIVE, AEROSPACE, SEMICONDUCTOR, ENERGY and MEDICAL industry.



Distributed by:

Guyson International Ltd
Snaygill Industrial Estate
Keighley Road
SKIPTON
North Yorkshire BD23 2QR
England

Tel: +44 (0)1756 799911
www.guyson.co.uk

Distributed by:

GUYSON S.A.
ZAC des Portes de l'Oise
2 rue Henri Becquerel
Batiment B7
60230 Chambly - France

Tél: +33 (0)1 30 28 43 16
Fax: +33 (0)1 39 37 87 71
www.guyson.fr

www.inventec.dehon.com



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Inventec Performance Chemicals – 26 rue de Coulons. 94360 Bry-sur-Marne, France
Limited company with capital of 600 000€ - 964 500 706 RCS Créteil