



COOLING

THERMASOLV IM1

HEAT TRANSFER FLUID
ONE PHASE & TWO PHASE IMMERSION COOLING
SUSTAINABLE & EXCELLENT COMPATIBILITY

BENEFITS

THERMASOLV IM1 is a heat transfer fluid for cooling in One Phase (max 50° C) or in Two Phase immersion system. It's high electrical insulation properties allows to immerse electronics & electrical devices under power in the fluid for direct cooling. The favorable characteristics of the product's viscosity & density enable superior heat transfer performance.

It's very good compatibility with a wide range of plastics, metals and elastomers and chemical stability of the fluid, makes THERMASOLV IM1 an ideal fluid for immersion cooling.

THERMASOLV IM1 is also a very sustainable and safe solution as it is non-toxic, non-flammable, medium GWP and no ODP. Besides, it can be offered for recycling when needed.

| | |
|--------------------|---|
| PERFORMANCE | <ul style="list-style-type: none"> High electrical insulation Excellent heat dissipation Low kinetic viscosity & low freezing point limit the load on pumps |
| COST | <ul style="list-style-type: none"> Thermally and chemically stable in use so allows for long-term use Can be returned for recycling and re-use No flash point: Does not require the use of explosion proof equipment |
| HSE | <ul style="list-style-type: none"> Very low toxicity (refer to the SDS) Medium GWP & no Ozon Depletion Potential (ODP) Non-flammable |

SPECIFICATIONS

| SPECIFICATIONS | VALUES | METHODS |
|------------------------------------|------------------|------------------------|
| Aspect | Colorless, clear | Visual |
| Ether methoxy-nonafluorobutane (%) | > 99,5 | Internal / MO.SB.10033 |

CHARACTERISTICS

| CHARACTERISTICS | VALUES |
|--|-------------------------|
| Boiling point (°C / °F) | 61°C / 142°F |
| Freezing point (°C / °F) | -135°C / -211°F |
| Flash point | No |
| Surface tension (dynes/cm) | 13.6 |
| Pour Point (°C/°F) | -135°C |
| Density (g/cm ³) | 1.52 |
| Specific Heat | 1.17 J/g K / 1.14J/g °C |
| Heat of vaporization (kJ/kg) | 112 |
| Vapor pressure kPa | 27 |
| Molecular weight | 250 |
| Critical Pressure (Mpa) | 2,23 |
| Kinematic viscosity (cSt) | 0,38cSt / 0.63 CP |
| Solubility water in fluid (ppm weight) | 95 |
| Solubility fluid in water (ppm weight) | 12 |
| Dielectric Strength Range, 0.1" gap (kV) | >25 |
| Dielectric Constant @ 1kHz | 7,4 |
| Volume Resistivity (Ohm-cm) | 10 ⁸ |

PROCESS RECOMMENDATION

The best process will depend on factors such as operating conditions & equipment. THERMASOLV IM1 is a drop-in solution for other Hydrofluoethers with a boiling point of 61°C. Our team is ready to advise you.

SINGLE PHASE SYSTEM

- Recommended Temperature Minimum: -105°C / -157°F
- Recommended Temperature Maximal: 50°C / 122°F

TWO PHASE SYSTEM

- Boiling Point: 61°C

TYPICAL APPLICATIONS

Brine for semiconductor Devices

- Dry etching equipment
- Stepper
- Plover
- IC tester
- CVD lithography

Others brines

- Coolant for computer servers, sensors, condensers precision & electronic devices
- Temperature control for environmental test rooms
- Heat transfer fluid for thermostat chamber

Working Fluids

- Working fluid for heat pipes
- Working fluid for exhaust heat from manufacturing plants
- Leak tester for filters & bulbs
- Reliability testing for electronics
- Coolant for rectifiers LEDs & laser generators

PACKAGING, STORAGE & SHELF LIFE

- Keep products in closed original packaging and store at room temperature.
- Shelf life is minimum 18 months from production date when kept in recommended conditions.

AVAILABLE PACKAGING



35 Kg DRUM

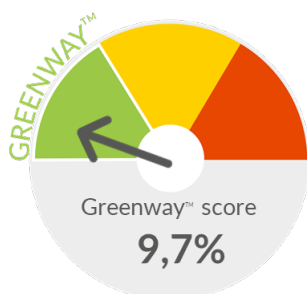


255 Kg DRUM

HEALTH, SAFETY & ENVIRONMENT

THERMASOLV IM1 is a **GREENWAY** product.

More info on our Greenway concept via this [link](#)



MAIN CONTRIBUTORS WHICH REDUCE IMPACT:

HUMAN HEALTH & SAFETY

- Non-flammable & no flashpoint -> eliminating the need for explosion proof equipment or special storage & transport
- Non-toxic & no corrosive impact -> No S risk labelling

ENVIRONMENT PROTECTION & RESOURCES SAVINGS

- Low environmental impact: no H labelling regarding environment
- Can be returned for recycling and re-use: ECOPROGRAM
- Reduce consumption of product, consumables, water & energy

| PROPERTIES | THERMASOLV IM1 |
|---------------------------------|----------------|
| Ozone Depleting Potential (ODP) | 0.00 |
| Global Warming Potential (GWP) | 320 |
| Atmospheric lifetime (years) | 4.1 |
| 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)

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 you process at all your worldwide manufacturing facilities
- to provide fast response on technical issues which could occur at any time during mass production.

Customers are also welcome in our CLEANING CENTERS to see the process in action and to get convinced by our solutions. We cover water- and solvent based processes.

Inventec is unique in the world by developing not only cleaning materials but also soldering and coating solutions. These materials are very closely linked with each other from a process point of view. Talking to our Technical Team, who understands very well these 3 different product groups, will help you greatly to overcome technical challenges within your overall process.

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 materials for Electronic, Semiconductor and Industrial applications. For over 40 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.

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S O L D E R I N G • C L E A N I N G • C O A T I N G

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

This data is based on information that the manufacturer believes to be reliable and offered in good faith. In no event will INVENTEC PERFORMANCE CHEMICALS be responsible for special, incidental and consequential damages. The user is responsible to the Administrative Authorities (regulations for the protection of the Environment) for the conformity of his installation.

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