TECHNICAL DATA SHEET
ASI-3280

Main function

ASI-3280 is a clear, colorless, thermally stable, fully fluorinated (perfluorocarbon) liquid designed for single-phase heat-transfer applications in the semiconductor manufacturing industry. Its wide liquid range (-50°C to 112°C) makes it suitable for a variety of applications, including etchers, ion implanters and testers.
ASI-3280 is formulated primarily as a single compound, helping maintain a stable composition without shifting or fractionating over time. This minimizes fluid loss and helps maintain consistent transport properties throughout the fluid's service life.

Key Features

- Excellent chemical inertness for temperature-control and heat-dissipation applications
- Single-phase cooling with low pressure rise
- No flash point and no flammable range
- High dielectric strength of 48 kV
- Low dielectric constant of 1.96
- Low viscosity for efficient fluid circulation and heat transfer
- Zero ozone depletion potential (ODP = 0)
- Compatible with most metals, plastics and elastomers
- High resistance to thermal breakdown and hydrolysis during storage and use
- Non-toxic, harmless, and non-irritating

Typical Applications

- Single-phase heat-transfer fluid for etchers, ion implanters, testers and other semiconductor manufacturing equipment
- Liquid-cooling safety protection for energy-storage lithium battery systems
- Immersion cooling / dielectric fluid for data center applications
- General thermal management in temperature-control systems

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Specifications

Property	Value
Appearance	Transparent, colorless liquid
Boiling Point	112–115°C
Pour Point	-50°C
Freeze Point	-61°C
Flash Point	None
Flammable Range	None
Density (25°C)	1.83 g/mL
Specific Heat (25°C)	1.431 J/g·°C
Thermal Conductivity (25°C)	0.0834 W/m·K
Heat of Vaporization	136 J/g
Dielectric Strength	48 kV
Dielectric Constant	1.96
Viscosity (25°C)	1.32 cSt
Surface Tension	12.7 mN/m
Saturated Water Content	50 ppm
pH Value	7
ODP	0
GWP	Low*

Values above are typical and should not be used as, or interpreted as, product specifications.

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Composition

Component	CAS No.	Composition
Perfluoro-compound	86508-42-1	Primarily single-compound formulation*

Storage & Handling

- Highly resistant to thermal breakdown and hydrolysis during storage and use
- Read the current ASI-3280 Safety Data Sheet (SDS) and applicable precautionary information before use
- Follow all applicable handling precautions and directions
- Implement appropriate recovery, recycling and/or disposal procedures to minimize emissions
- Keep containers properly closed and handle according to the corresponding SDS

Shelf Life

24 months from the date of manufacture when stored unopened in the original packaging under recommended conditions.

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Regulatory / Environmental Information

Ozone Depletion Potential (ODP): 0.

- As a perfluorocarbon (PFC), the product is identified in the source TDS as having a long atmospheric lifetime. Appropriate conservation, recovery, recycling and/or disposal procedures should be implemented to minimize emissions.
- Users are responsible for confirming compliance with applicable chemical inventory, import and environmental regulations in the destination country before import and use.

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Your use of our product, technical assistance, information (whether oral, written or in the form of production evaluation) and for your purposes of use, including any suggested formulations and recommended content, are beyond our control. Therefore, it is necessary for you to test our product, technical assistance and information to determine whether it meet your use needs. The specific application analysis must include at least tests to determine its applicability from the technical, health, safety and environmental perspectives. We are not required to carry out such tests.

Unless we otherwise agree in writing, all products will be sold in strict accordance with the standard terms of sale, which we may provide upon request. We do not guarantee or warrant any information and technical assistance provided and are subject to change without prior notice. We do not guarantee or warrant any information or technical assistance provided and are subject to change without prior notice.

Both parties expressly understand and agree that you will assume all liability, whether related to infringement, contract or use of our products, technical assistance and information, we will not accept such liability. Any statement or recommendation not contained herein is unauthorized and does not bind us in any way.

Nothing herein shall be construed as suggesting the use of any product in violation of any patent rights relating to any material or use. This information does not imply or in fact grant any patent rights.

This product is not of "medical grade" and should not be used in the manufacture of medical equipment or intermediate products of medical equipment, as these products will come into direct contact with the patient's body during normal use (e.g. skin, body fluids or body tissues, including blood not in direct contact).

In addition, this product should not be used as a food additive, including drinking water or cosmetics.

If the product is to be used for the production of medical supplies, intermediate products for medical supplies, for the production of food grade products or cosmetics, the company must contact ASI Technologies Ltd. in advance to obtain permission to sell the products for the above purposes.

However, the purchaser of the product must make its own decision as to whether the product is suitable for the manufacture of medical products, medical device intermediates, food additives or cosmetics, without relying on any representations made by the company.

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