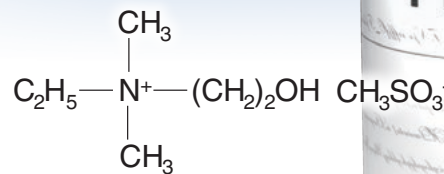


Hitachi HILEM IL1000

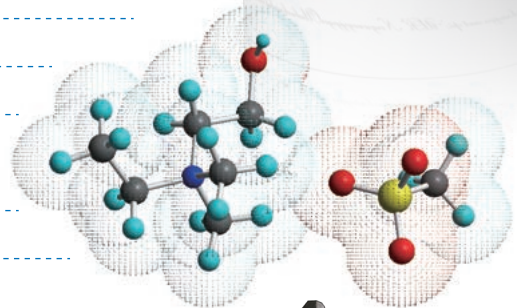
Hitachi Innovation for Hitachi Electron Microscopes The Latest in Sample Preparation...

One drop of Ionic Liquid replaces the traditional multi-step biological sample preparation processes; it eliminates tedious fixation, dehydration, and freeze-drying steps!



Ionic Liquid Chemistry

- Organic salt in a liquid state at an ambient temperature
- Low vapor pressure
- Highly Ion-conductive
- Highly hydrophilic and hyperosmotic
- Small molecule / Bioinspired choline-like structure
- Chemically safe



Ionic Liquid Utility

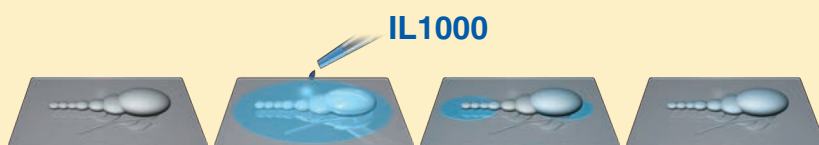
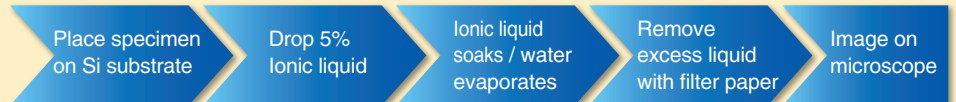
- Useful for observation of non/less-conductive materials by providing conductive layer
- Replaces water and maintains shape of object without vaporization under vacuum
- Shortens sample preparation time by eliminating fixation, dehydration, freeze-drying, etc.



HILEM Sample Preparation Steps

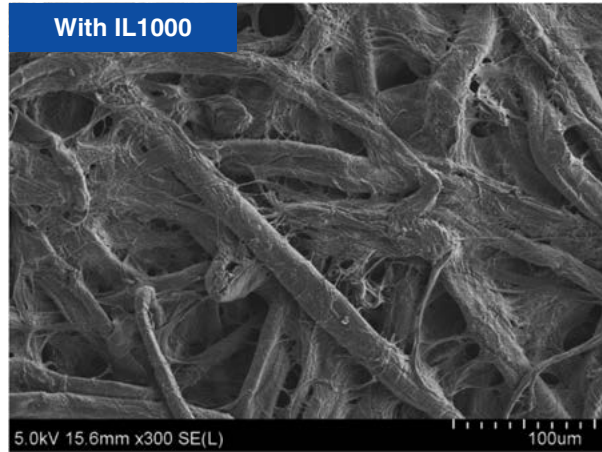
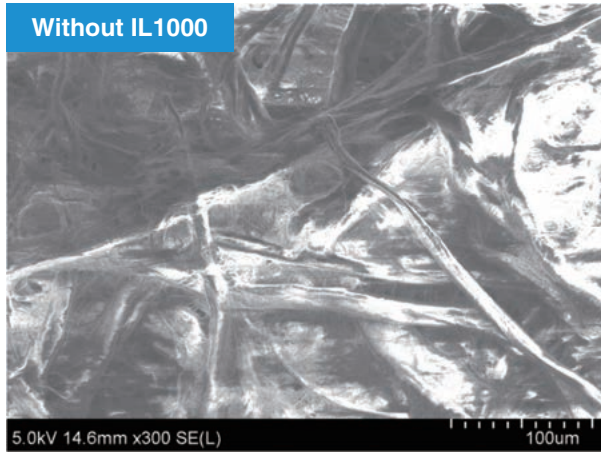


S3400N 5.00kV x25 SE 2.00mm
Accelerating voltage: 5 kV, Mag: 25x

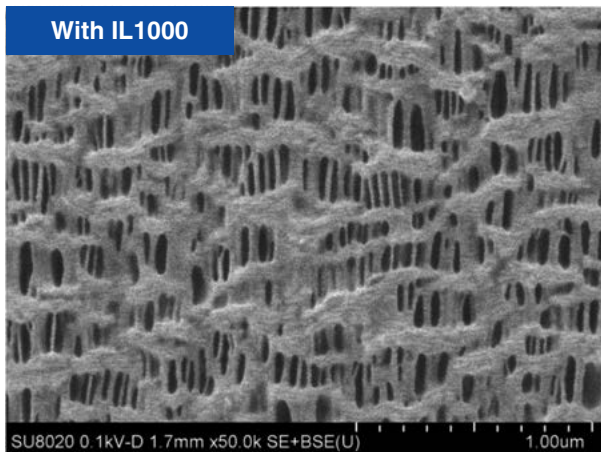


Specimen: Micro-crustacean (Gammaridea)

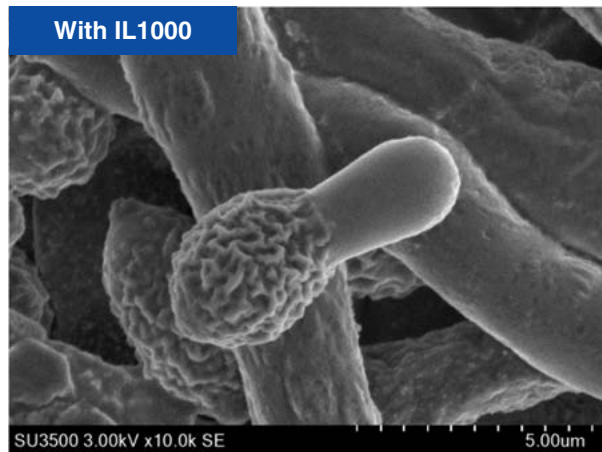
Application Data



Sample: Filter Paper



Sample: Polymer Separator Membrane



Sample: Fungi (Moldy sticky rice cake)

Chemical Composition

Chemical Name	Molecular formula	Molecular mass	MITI No.	CAS.No.	Contents
Ethyl (2-hydroxyethyl), dimethyl ammonium methane sulfonate	$C_7H_{19}NO_4S$	213.3	9-1994 2-1582	1309834-97-6	90%
Water	H_2O	18.0	—	7732-18-5	10%

Net weight

2 g

References

1. Kuwabata, S.; Kongkanand, A.; Oyamatsu, D.; Torimoto, T. Chem.Lett., 35, 600-601 (2006)
2. Kawai, K.; Kaneko, K.; Yonezawa, T. Langmuir., 27, 7353-7356 (2011)
3. Kawai, K.; Kaneko, K.; Kawakami, H.; Yonezawa, T. Langmuir., 27, 9671-9675 (2011)

- Hitachi High Technologies owns Japanese and US patents for an observation method by detecting secondary or transmitted electrons from a sample impregnated or coated with an ionic liquid. (Japanese patent# 4581100, USP#7880144)
- Read precautions and instruction manual for appropriate use of IL1000 Ionic Liquid.

Specifications in this catalog are subject to change with or without notice, as Hitachi High-Technologies Corporation continues to develop the latest technologies and products for our customers.

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