



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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CHEMTRONICS

Technical Data Sheet

TDS # 1052

Freeze Spray

PRODUCT DESCRIPTION

Freeze Spray is engineered for locating thermal intermittent electrical components and cooling printed circuit boards. This circuit refrigerant system is nonflammable, residue-free and provides fast cooling action.

- Nonflammable
- High heat transfer
- Low static generation
- Noncorrosive
- Lowers temperature to -60°F (51°C)
- Ultra pure
- Leaves no residue
- Nonabrasive on most surfaces

TYPICAL APPLICATIONS

Freeze Spray can be used to:

- Cool Equipment for Testing
- Dissipate Heat While Soldering or Desoldering
- Isolate Thermal Intermittent Components
- Test Circuit Traces for Continuity
- Test Printed Circuit Boards for Stress Fractures
- Track Intermittent Failures and Shorts

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

Boiling Point	-15.7°F
Vapor Density (air=1) @ 77°F	3.18
Solubility in Water @ 77°F /1 atm	0.10% by weight
Specific Gravity (water = 1 @77°F)	1.21
Evaporation Rate (butyl acetate=1)	>1
Appearance	Clear, Colorless Liquified Gas
Odor	Slight Ethereal
Surface Tension (dynes/cm @ 77°F)	7.8
Flash Point (TCC)	None
Shelflife	5 years

COMPATIBILITY

Freeze Spray is generally compatible with most materials used in printed circuit board fabrication, including sensitive plastics and compounds. With any circuit refrigerant, compatibility must be determined on a non-critical area prior to use.

<u>Material</u>	<u>Compatibility</u>
Buna-N	Fair
Graphite	Good
HDPE	Good
LDPE	Good
Lexan™	Poor
Neoprene	Good
Cross-Linked PE	Good
Polyacrylate	Poor
Polystyrene	Good
PVC	Good
Silicone Rubber	Fair
Teflon™	Good
Viton™	Poor

ENVIRONMENTAL IMPACT DATA			
CFC	0.0%	VOC	0.0%
HCFC	0.0%	HFC	100.0%
CL Solv.	0.0%	ODP	0.0

CFC, HCFC, CL. SOLV., VOC, and HFC numbers shown are the content by weight. Ozone depletion potential (ODP) is determined in accordance with the Montreal Protocol and U.S. Clean Air Act of 1990. The ODP of this product is zero. It is the sum of the ODP of the substances that may contribute to the depletion of stratospheric ozone, based upon the weight of each substance in the product's formulation.

NOTE:

This information is believed to be accurate. It is intended for professional end users having the skills to evaluate and use the data properly. CHEMTRONICS does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.

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USAGE INSTRUCTIONS

For industrial use only.
 Read MSDS carefully prior to use.
 No special surface preparation is required prior to using Freeze Spray. Direct spray onto the area to instantly cool components, circuit boards or adhesives.

AVAILABILITY

ES1052 10 oz. Aerosol

TECHNICAL & APPLICATION ASSISTANCE

Chemtronics provides a technical hotline to answer your technical and application related questions. The toll free number is:
1-800-TECH-401.

<u>DISTRIBUTED BY:</u>

ENVIRONMENTAL IMPACT DATA