



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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## New! 3M™ Novec™ Contact Cleaner Plus

### Introduction

New 3M™ Novec™ Contact Cleaner Plus is formulated with extra cleaning power to remove stubborn oils, greases and silicones, as well as fluorinated oils and greases, dust and particulates, from sensitive electrical and electronic equipment. This includes connectors, printed circuit boards, electromechanical devices, scales, relays and circuit breakers. Novec Contact Cleaner Plus is compatible with plastics and other materials of construction. Novec Contact Cleaner Plus is nonflammable, non ozone-depleting, has low global warming potential and contains no HCFCs, HFCs, nPB or HAPs. This product is formulated with 3M™ Novec™ 7200 Engineered Fluid, which is VOC-exempt under California Air Resources Board (CARB) regulations. Novec Contact Cleaner Plus is optimized for both compliance with the CARB VOC limits and high performance because it does not resort to increased use of inert propellants (dilution) in order to achieve compliance.

- Fast drying, low odor
- Excellent plastics compatibility
- No rinsing and no residues
- Non-corrosive, non-conductive
- Non-flammable
- Low toxicity
- Low Global Warming Potential

### Plastics Compatibility

Material	Compatibility	Material	Compatibility
ABS	Excellent	PMMA	Excellent
Nylon	Excellent	POM	Excellent
Lexan®/Polycarbonate	Excellent	PP	Excellent
HDPE	Excellent	PS	Excellent
CDPE	Excellent	PTFE	Excellent
C.E. Phenolic	Excellent	PVC	Excellent

### Environmental, Health and Safety Information

Properties	Novec Contact Cleaner Plus	HCFC-141b
Ozone Depletion Potential <sup>1</sup> (ODP)	0	0.1
Global Warming Potential <sup>2</sup> (GWP)	71	725
Atmospheric Lifetime - ALT (years)	3.8	9.3
Flashpoint	None	None
Exposure Guideline (ppmV, 8 hr time weighted average)	200	500

<sup>1</sup>CFC-11 = 1.0

<sup>2</sup>GWP-100 year integration time horizon, CO<sub>2</sub> = 1.0

### Regulatory Information

RoHS/WEEE Compliant	Yes
NSF Registration	Not yet registered
Meets CA VOC Limits	Yes – Electrical Cleaner
Meets OTC VOC Limits	Yes – Electrical Cleaner
NSN (National Stock Number)	Not yet assigned



3M™ Novec™ Contact Cleaner Plus provides more cleaning power – while maintaining excellent plastics compatibility.



## Physical Properties

Evaporation Rate (relative to n-Butyl Acetate)	0.10
Surface Tension (dynes/cm <sup>2</sup> )	16*
Specific Gravity (g/ml)	1.40
Dielectric Strength	>25 kV
Shelf Life	5 years

\*Initial estimate; measurement is pending.

### More 3M™ Novec™ Aerosol Cleaners

3M™ Novec™  
Contact Cleaner

3M™ Novec™  
Electronic Degreaser

3M™ Novec™  
Flux Remover

## Safety and Handling

3M™ Novec™ Contact Cleaner Plus is nonflammable. When used as directed, in its intended applications, The product has a wide margin of safety between anticipated exposures and the exposure guideline. Before using this product, be sure to read and follow all precautions and directions for use contained in the product label and Material Safety Data Sheet, which is available from your local 3M representative upon request.

## Transportation Classification

**Ground:** Consumer Commodity ORM-D **Air:** Aerosols, Nonflammable, 2.2, UN1950

## Resources

3M™ Novec™ Aerosol Cleaners are supported by global sales, technical and customer service resources, with fully-staffed technical service laboratories in the U.S., Europe, Japan, Latin America and Southeast Asia. Users benefit from 3M's broad technology base and continuing attention to product development, performance, safety and environmental issues.

For additional technical information on Novec Contact Cleaner Plus in the United States, call 3M Customer Service, 800 810 8513.

For information on additional 3M fluids, coatings and other chemical products for the electronics industry, visit our web site at: [www.3M.com/novec](http://www.3M.com/novec)

### The 3M™ Novec™ Brand Family

The Novec brand is the hallmark for a variety of patented 3M products. Although each has its own unique formula and performance properties, all Novec products are designed in common to address the need for safe, effective, sustainable solutions in industry-specific applications. These include precision and electronics cleaning, heat transfer, fire protection, lubricant deposition and several specialty chemical applications.

3M™ Novec™ Engineered Fluids • 3M™ Novec™ Aerosol Cleaners • 3M™ Novec™ 1230 Fire Protection Fluid • 3M™ Novec™ Electronic Coatings • 3M™ Novec™ Electronic Surfactants

United States	China	Europe	Japan	Korea	Singapore	Taiwan
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