



Regulatory Data Sheet

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3M™ Novec™ 649 Engineered Fluid

3M
Electronics Materials Solutions Division
3M Center, St. Paul, MN 55144-1000, USA
1-888-3M HELPS (1-888-364-3577)

RDSs are available at www.3M.com

Regulations and Industry Standards

SDS (US OSHA)

See Safety Data Sheet (SDS) for hazard and other regulatory data.

California Proposition 65

This product is an industrial product manufactured outside of California. It has not been assessed for consumer sale or use. Contact the manufacturer if more information is needed for your use.

China RoHS

This product or part does not exceed the maximum concentration values (MCVs) in China RoHS GB/T 26572-2011 (Requirements of Concentration limits for certain restricted substances in electrical and electronic products), which means that each of the homogeneous materials within this product is below the following MCVs: (a) 0.1% (by weight) for lead and its compounds, mercury and its compounds, hexavalent chromium and its compounds, polybrominated biphenyls or polybrominated diphenyl ethers; and (b) 0.01% (by weight) for cadmium and its compounds.

Conflict Minerals

Conflict Minerals, which the U.S. Securities and Exchange Commission ("SEC") has defined as gold, columbite-tantalite (coltan), cassiterite, wolframite, or their derivatives (tin, tantalum, or tungsten), are not contained in or are not "necessary to the functionality or necessary to the production" of the above-listed product, as the term "necessary to the functionality or the production" is defined under the SEC's Conflict Minerals Rule. 77 Fed. Reg. 56274 (Sept. 12, 2012).

EU Azo Colourant Directive

This product does not contain azo dyes which, by reductive cleavage of one or more azo groups, may release one or more of the aromatic amines listed in the Appendix I, in detectable concentrations above 30 ppm in the finished article or in the dyes parts thereof, according to the testing method established in accordance with Article 2a of this European Commission Directive 2002/61/EC (2004/21/EC).

EU REACH

This product is a chemical preparation under Regulation No 1907/2006 of the European Parliament and the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). To the best of its knowledge, 3M has pre-registered and has registered/is intending to register all substances of its chemical preparations that it currently

imports into and/or manufactures in the European Union that are in scope for (pre-)registration by 3M. It has a required safety data sheet.

EU REACH

This product, including any article that the product is composed of, does not contain at greater than 0.1% by weight a Substance of Very High Concern (SVHC) substance identified according to Article 59 of REACH. This declaration reflects the substances on the candidate SVHC list, effective January 2024.

EU RoHS

This product does not exceed the maximum concentration values (MCVs) set under EU Directive 2011/65/EU (RoHS recast/RoHS 2), as stated in Annex II to that directive. This means that each of the homogenous materials within this product does not exceed the following MCVs: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; and (b) 0.01% (by weight) for cadmium.

EU RoHS Phthalates

This product does not exceed the maximum concentration values (MCVs) for phthalates set under EU Directive 2011/65/EU (RoHS recast/RoHS 2), as amended by EU 2015/863, which applies to finished EEE after July 22, 2019 for Category 1-7, 10-11 products and after July 22, 2021 for Category 8 and 9 products. This means that each of the homogeneous materials within this product does not exceed the MCV of 0.1% (by weight) for each of the following phthalates: DEHP, BBP, DBP, and DIBP.

TSCA Section 6

This product is not known to contain 2,4,6-Tri-tert-butylphenol (CAS 732-26-3).

TSCA Section 6

This product is not known to contain Decabromodiphenyl Ether (Deca-BDE) (CAS 1163-19-5).

TSCA Section 6

This product is not known to contain Hexachlorobutadiene (HCBd) (CAS 87-68-3).

TSCA Section 6

This product is not known to contain Pentachlorothiophenol (PCTP) (CAS 133-49-3).

TSCA Section 6

This product is not known to contain Phenol, isopropylated phosphate (3:1) (PIP (3:1)) (CAS 68937-41-7).

Chemicals and/or Compounds of Interest

4,4'-Methylenebis(2,6-Diethylaniline) (CAS 13680-35-8) : Not known to contain.

Acrylamide (CAS 79-06-1) : Not known to contain.

Alkylphenol (AP) : Not known to contain.

Alkylphenolethoxylates (APE) : Not known to contain.

Antimony and (Sb) Compounds : Not known to contain.

Aromatic Amines : Not known to contain.

Arsenic and (As) Compounds : Not known to contain.

Asbestos : Not known to contain.

Azocolorants and Azodyes : Not known to contain.

Benzenamine, N-Phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST) (CAS 68921-45-9) : Not known to contain.

Beryllium and (Be) Compounds : Not known to contain.

Bismuth and (Bi) Compounds : Not known to contain.

Bisphenol A (BPA) (CAS 80-05-7) : Not known to contain.

Butyl Benzyl Phthalate (BBP) (CAS 85-68-7) : Not known to contain.

Butylated Hydroxytoluene (BHT) (128-37-0) : Not known to contain.

Cadmium and (Cd) Compounds : Not known to contain.

Chlorinated Paraffins, Short Chain : Not known to contain.

Chlorinated Polyethylene : Not known to contain.

Chloroprene (Neoprene) : Not known to contain.

Chlorosulfonated Polyethylene : Not known to contain.

Chromium and (Cr) Compounds : Not known to contain.

Colophony (Rosin) (CAS 8050-09-7) : Not known to contain.

Creosote : Not known to contain.

Crystalline Silica : Not known to contain.

Decabromodiphenyl Ether (Deca-BDE) (CAS 1163-19-5) : Not known to contain.
Di(2-Ethylhexyl) Phthalate (DEHP) (CAS 117-81-7) : Not known to contain.
Di(Methoxyethyl) Phthalate (DMEP) (CAS 117-82-8) : Not known to contain.
Dibutyl Phthalate (DBP) (CAS 84-74-2) : Not known to contain.
Dibutyl Tin Compounds : Not known to contain.
Diisobutyl Phthalate (DIBP) (CAS 84-69-5) : Not known to contain.
Diisodecyl Phthalate (DIDP) : Not known to contain.
Diisononyl Phthalate (DINP) : Not known to contain.
Dimethyl Fumarate (DMF) (CAS 624-49-7) : Not known to contain.
Dimethylacetamide (CAS 127-19-5) : Not known to contain.
Di-n-Octyl Phthalate (DNOP) (CAS 117-84-0) : Not known to contain.
Dioxins and Furans : Not known to contain.
Dyes : Not known to contain.
Epoxy Compounds : Not known to contain.
Flame Retardants (not PBB or PBDE) : Contains.
Flavorings : Not known to contain.
Formaldehyde (CAS 50-00-0) : Not known to contain.
Genetically Modified Organisms (GMOs) : Not known to contain.
Gluten : Not known to contain.
Halogenated Compounds : Contains.
Halogenated Flame Retardants : Not known to contain.
Hexabromo Cyclo-Dodecane (HBCD) : Not known to contain.
Hexabromobenzene (CAS 87-82-1) : Not known to contain.
Hexachlorobenzene (CAS 118-74-1) : Not known to contain.
Hexachlorobutadiene (HCBD) (CAS 87-68-3) : Not known to contain.
Hexavalent Chromium and (Cr+6) Compounds : Not known to contain.
Lead and (Pb) Compounds : Not known to contain.
Materials of Human or Animal Origin : Not known to contain.
Melamine (CAS 108-78-1) : Not known to contain.
Mercury and (Hg) Compounds : Not known to contain.
Musk Xylene (CAS 81-15-2) : Not known to contain.
Natural Rubber Latex : Not known to contain.
Nickel and (Ni) Compounds : Not known to contain.
N-Nitrosamines : Not known to contain.
Nonylphenol (NP) : Not known to contain.
Nonylphenol Ethoxylates (NPE) : Not known to contain.
Nuts : Not known to contain.
Organochlorine Pesticides : Not known to contain.
Organophosphate Pesticides : Not known to contain.
Organotin Compounds : Not known to contain.
Ozone Depleting Chemicals (ODCs) : Not known to contain.
Pentachlorophenol (87-86-5) : Not known to contain.
Petrochemical Fertilizers : Not known to contain.
Phenol (CAS 108-95-2) : Not known to contain.
Phosphorus and (P) Compounds : Not known to contain.
Phthalates : Not known to contain.
Polybrominated Biphenyls (PBB) : Not known to contain.
Polybrominated Diphenylethers (PBDE) : Not known to contain.
Polychlorinated Biphenyls (PCBs) : Not known to contain.
Polychlorinated Naphthalenes (PCNs) (>3 Chlorine Atoms) : Not known to contain.
Polycyclic Aromatic Hydrocarbons (PAHs) : Not known to contain.
Polyvinyl Chloride (PVC) : Not known to contain.
Potassium and (K) Compounds : Not known to contain.
Radioactive Substance : Not known to contain.
Selenium and (Se) Compounds : Not known to contain.

Silicone : Not known to contain.

Sulfur and (S) Compounds : Not known to contain.

Tetrabromobisphenol A (TBBA) (CAS 79-94-7) : Not known to contain.

Tin and (Sn) Compounds : Not known to contain.

Tributyl Tin Compounds : Not known to contain.

Triphenyl Tin Compounds : Not known to contain.

Urea-Formaldehyde (UF) : Not known to contain.

Zinc and (Zn) Compounds : Not known to contain.

Per- and Polyfluoroalkyl Substances (PFAS)

PFAS refers to a broad range of thousands of materials with varying properties and characteristics, which may include high resistance to oil, water, temperature, chemicals, and fire, which makes certain PFAS critical to the functioning of many modern products.

Chlorofluorocarbons (CFCs) : Not intentionally added.

Hydrochlorofluorocarbons (HCFCs) : Not intentionally added.

Per- and polyfluoroalkyl substances (PFAS) : Intentionally added. *"Please see section 3 of the SDS"*

Perfluorooctanesulfonic Acid (PFOS) (CAS 1763-23-1) : Not intentionally added.

Perfluorooctanoic Acid (PFOA) (CAS 335-67-1) : Not intentionally added.

Definitions

Note: all Definitions take Disclaimers into account and apply to the "Chemicals and/or Compounds of Interest" and/or "Per and poly-fluoroalkyl Substances (PFAS)" sections only

Terms	Definitions
Contains*	Present based on composition information disclosed by 3M suppliers, analytical testing, or both.
Not known to contain*	1. Analytical measurement for presence is not currently available; 2. If measurement is possible, a) The material has not been identified or disclosed to 3M and b) The material has not been specifically quantified or detected; OR c) Based on information from raw material suppliers, possible presence as an impurity or by-product at or below regulatory thresholds (e.g., 0.1 or 0.01 %)
Intentionally added**	Desired in the final product to provide a specific characteristic, appearance, or quality and/or to perform a specific function.
Not intentionally added**	By-product(s), impurity(ies) and/or unintended artifact(s) resulting from the formulation and/or manufacture of a material.
By-product***	A chemical substance produced without a separate commercial intent during the manufacture, processing, use, or disposal of another chemical substance or mixture.
Impurity***	A chemical substance which is unintentionally present with another chemical substance (e.g., residuals, catalysts, process solvents).

**Terms apply to the Chemicals and/or Compounds of Interest Section only (if section is present)*

***Terms apply to the PFAS Section only (if section is present)*

****Terms apply to both the Chemicals and/or Compounds of Interest and PFAS Sections (if section(s) are present)*

Disclaimers: The information provided in this document related to material content represents 3M's knowledge and belief, which may be based in whole or in part on information provided by suppliers to 3M. This is intended to answer commonly asked questions about 3M products and is not intended to be a comprehensive listing of all substances that may be of interest or that may be regulated in this or other 3M products, nor is it intended to be a comprehensive summary of any and all regulations that may apply to this product. Where substances are listed, their listing does not infer or constitute a judgment as to their safety, environmental or health impacts. Information is supplied upon the condition that the persons receiving the same will make their own determination as to its suitability for their purposes prior to use. Customers are encouraged to consult with legal and regulatory experts to determine applicable regulations in light of intended use of the product.

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of the purchase price paid by Buyer for each non-conforming Product, within a reasonable time after written notification of said non-conformance and return of said Product to 3M. 3M shall not under any circumstances be liable for direct, incidental, special, or consequential damages (including but not limited to loss of profits, revenue, or business) related to or arising out of this certification, including, the use, misuse or inability to use the Product. Unless stated otherwise in writing, the foregoing language cannot be waived, modified, or supplemented in any manner whatsoever.