

Dynalene HF-LO

Dynalene HF-LO is a food safe product used in pharmaceutical, food & beverage, refrigeration, and ultra-low temperature applications. Dynalene HF-LO is derived from aliphatic hydrocarbons and has a high flash point, low odor, is non-toxic, biodegradable, and CFC-free. Dynalene HF-LO has a recommended operating temperature range of -100°F (-73°C) to 400°F (204°C) for closed systems and -60°F (-52°C) to 135°F (58°C) for open systems.

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Dynalene HF-LO meets the following Food & Drug Administration 21 CFR requirements:

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| 21 CFR 172.882 | Synthetic isoparaffinic petroleum hydrocarbons – May be used in food only for the uses prescribed in 21 CFR 172.882(c) with limitations as specified. |
| 21 CFR 172.884 | Odorless light petroleum hydrocarbons - May be used in food only for the uses prescribed in 21 CFR 172.884(c) with limitations as specified. |
| 21 CFR 178.3530 | Isoparaffinic petroleum hydrocarbons, synthetic - May be used in the production of non-food articles intended for use in food contact applications. The quantity used must not exceed the amount reasonably required to accomplish the intended technical effect, and the residual remaining in the finished article must be the minimum amount reasonably attainable. |
| 21 CFR 178.3620(b) | Technical white mineral oil - May be used as provided in 21 CFR 178.3620 (b)(2). |
| 21 CFR 178.3650 | Odorless light petroleum hydrocarbons - May be used as a component of non-food articles intended for use in contact with food only for the uses prescribed in 21 CFR 178.3650(c) with limitations as specified. |
| 21 CFR 573.680 | Mineral oil - May be used in animal feed only for the uses prescribed in 21 CFR 573.680(b), subject to the quantity limitations in 21 CFR 573.680(c). |
| 21 CFR 573.740 | Odorless light petroleum hydrocarbons - May be used in an amount not in excess of that required as a component of insecticide formulations used in compliance with regulations issued in Part 573 (Food Additives Permitted in Feed and Drinking Water of Animals). Due to the compositional compliance listed above, this product, as manufactured, also complies with the following FDA regulations for specific applications: |
| 21 CFR 173.280 | Solvent extraction process for citric acid - May be used as a component of the solvent mixture used for extraction of citric acid as prescribed in this section. Residues of synthetic isoparaffinic petroleum hydrocarbons must not exceed 0.47 parts per million in citric acid. |
| 21 CFR 173.340 | Defoaming agents - May be used as a component of defoaming agents used in processing beet sugar and yeast. |

21 CFR 175.105	Adhesives - May be used to prepare adhesives that are used as components of articles intended for use in packaging, transporting or holding food, subject to the restrictions provided in 21 CFR 175.105(a)(2).
21 CFR 175.125	Pressure-sensitive adhesives - May be used in the production of pressure-sensitive adhesives used as the food-contact surface of labels and/or tapes applied to food, subject to the limitations prescribed in 21 CFR 178.3530 as noted above.
21 CFR 175.210	Acrylate ester copolymer coating - May be used in the production of acrylate ester copolymer coatings (both in the preparation of the polymer and in the preparation and application of the emulsion) used as food-contact surfaces of articles intended for packaging and holding food, including heating of prepared food, subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The finished coating is subject to the extraction limitations prescribed in 21 CFR 175.210(c).
21 CFR 175.300	Resinous and polymeric coatings - May be used in the production of resinous and polymeric coatings used as the food-contact surface of articles intended for use in food contact applications, as prescribed in 21 CFR 175.300(a), subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The finished coating is subject to the extraction limitations prescribed in 21 CFR 175.300(c).
21 CFR 175.320	Resinous and polymeric coatings for polyolefin films - May be used in the production of resinous and polymeric coatings used as the food-contact surface of articles intended for use in food contact applications, as prescribed in 21 CFR 175.320(a), subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The finished coating is subject to the extraction limitations prescribed in 21 CFR 175.320(c).
21 CFR 175.350	Vinyl acetate/crotonic acid copolymer - May be used in the production of a copolymer of vinyl acetate and crotonic acid that is used as a coating or as a component of a coating which is the food-contact surface of polyolefin films intended for packaging bakery products and confectionery, subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The finished coating is subject to the extraction limitations prescribed in 21 CFR 175.350(e)(1).
21 CFR 176.170	Components of paper and paperboard in contact with aqueous and fatty foods - May be used in the production of the food-contact surface of paper and paperboard intended for use in food contact applications with aqueous and fatty foods, subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The finished paper or paperboard product is subject to the extraction limitations prescribed in 21 CFR 176.170(c).
21 CFR 176.180	Components of paper and paperboard in contact with dry food - May be used as a component of the food-contact surface of paper and paperboard intended for use in dry food contact applications, subject to the limitations provided in 21 CFR 176.180(a).
21 CFR 176.200	Defoaming agents used in coatings - May be used as a component of defoaming agents used in the preparation and application of coatings for paper and paperboard intended for use in food contact applications.
21 CFR 176.210	Defoaming agents used in the manufacture of paper and paperboard - May be used as a component of defoaming agents used in the manufacture of paper and paperboard intended for use in food contact applications.
21 CFR 176.300	Slimicides - May be used as a component of slimicides used in the manufacture of paper and paperboard intended for use in food contact applications.
21 CFR 177.1200	Cellophane - May be used as a component of cellophane used for packaging food.

21 CFR 177.1210	Closures with sealing gaskets for food containers - May be used in the production of closures with sealing gaskets on containers intended for use in food contact applications, subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The closure assembly is subject to the extraction limitations prescribed in 21 CFR 177.1210(c).
21 CFR 177.1400	Hydroxyethyl cellulose film, water-insoluble - May be used as a component of water-insoluble hydroxyethyl cellulose film used for packaging food.
21 CFR 177.1520	Olefin polymers - May be used in the production of basic olefin polymers, as identified in 21 CFR 177.1520(a), or finished articles from such basic olefin polymers, intended for use in food contact applications, subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The basic olefin polymers are subject to the specifications and limitations as prescribed in 21 CFR 177.1520(c).
21 CFR 177.1550	Perfluorocarbon resins - May be used in the production of perfluorocarbon resins, produced as indicated in 21 CFR 177.1550(a), intended for use as coatings or components of coatings for articles intended for repeat food-contact use, subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The perfluorocarbon resins are subject to the specifications and extraction limitations as prescribed in 21 CFR 177.1550(d) and (e), respectively.
21 CFR 177.1580	Polycarbonate resins - May be used in the production of polycarbonate resins, produced as indicated in 21 CFR 177.1520(a), intended for use in food contact applications, subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The polycarbonate resins are subject to the specifications and extraction limitations prescribed in 21 CFR 177.1580(c).
21 CFR 177.1630	Polyethylene phthalate polymers - May be used in the production of polyethylene phthalate plastics (films, articles, or fabric), produced as indicated in 21 CFR 177.1630(a), (b), and (c), intended for use in contact with food, subject to the limitations prescribed in 21 CFR 178.3530 as noted above. The polyethylene phthalate plastics are subject to the specifications, extraction limitations, and conditions of use prescribed in 21 CFR 177.1630(f), (g), (h), (i), and (j).
21 CFR 177.2260	Filters, resin-bonded - May be employed in fiber finishing for the production of resin-bonded filters used in producing, manufacturing, processing, and preparing food. The resin-bonded filters are subject to extraction limitations and conditions of use identified in 21 CFR 177.2260(e) through (m).
21 CFR 177.2600	Rubber articles intended for repeated use - May be used as a component of rubber articles intended for repeated use in contact with food only as a plasticizer for rubber compounds, with the following limitations: In rubber articles complying with this section, not to exceed 30 percent by weight; lone or in combination with waxes, petroleum, total not to exceed 45 percent by weight of rubber articles that contain at least 20 percent by weight of ethylene-propylene copolymer elastomer complying with 21 CFR 177.2600(c)(4)(i), in contact with foods of Types I, II, III, IV, VI, VII, VIII, and IX identified in Table 1 of 21 CFR 176.170(c). Final articles are subject to the provisions set forth in this regulation, including the extraction limitations prescribed in 21 CFR 177.2600(e) and (f) that are applicable to the finished food contact surface.
21 CFR 177.2800	Textiles and textile fibers - May be used as an adjuvant substance in, and/or in the production of, textiles and textile fibers used as articles or components of articles that contact dry food only. This product may be used only at a level not to exceed 0.15 percent by weight of finished fibers.

21 CFR 178.3120	Animal glue - May be used as a component of animal glue intended for use in food contact applications.
21 CFR 178.3570	Lubricants with incidental food contact - May be used on food-processing equipment as a protective antirust film, as a release agent on gaskets or seals of tank closures, and as a lubricant for machine parts and equipment in locations in which there is exposure of the lubricated part to food. The addition to the food of this product must not exceed 10 parts per million.
21 CFR 178.3800	Preservatives for wood - May be used in the production of preservatives used on wooden articles that are intended for use in packaging, transporting, or holding raw agricultural products, subject to the limitations prescribed in 21 CFR 178.3530 as noted above.
21 CFR 178.3910(a)(b)	Surface lubricants used in the manufacture of metallic articles - May be used in surface lubricants used in the rolling of metallic foil or sheet stock and to facilitate the drawing, stamping, or forming of metallic articles from rolled foil or sheet stock by further processing. The total residual lubricant remaining on the food-contact surface cannot exceed 0.015 milligram per square inch and 0.2 milligram per square inch, respectively.
21 CFR 179.45	Packaging materials for use during the irradiation of pre-packaged food - May be used as an adjuvant substance in polyolefin film, polyethylene film, polyethylene terephthalate film, Nylon 6 film, and vinyl chloride-vinyl acetate copolymer film compliant with 21 CFR 179.45, as provided in paragraphs (b)(4)(i), (b)(6)(i), (d)(2)(i), (d)(2)(ii), (d)(2)(iii), and (d)(2)(iv). The concentration of this product is not to exceed 1 percent by weight of the polymer.
21 CFR 573.220	Feed-grade biuret - May serve as a diluent carrier in the manufacture of feed grade biuret with a maximum permitted concentration of 0.5 weight percent in the finished additive.

This product is produced under conditions of good manufacturing practice as required by 21 CFR 174.5(a) and is of a purity suitable for its intended use in food contact applications as allowed by the regulatory citations identified above. The manufacturer of any food, direct or indirect food additive, or food contact substance or article containing this product has the responsibility to ensure compliance with applicable FDA regulations and to ensure that any finished food contact article is technically suitable for the intended use.

VALIDITY DATE: This document is valid until the next relevant legislative and/or regulatory change with a maximum of one year as of the date of issue of the statement.