

Updated: July 3, 2025

Asterene® Polyethylene Appendix to PROs:

Substances and Chemicals

None of the following substances are intentionally used as additives or raw materials in the manufacture of Asterene® Polyethylene.

- Abietic acid
- Acetyltributylcitrate (ATBC); Tributyl 2-(acetyloxy)propane-1,2,3-tricarboxylate (CAS RN® 77-90-7)
- Acrolein (CAS No.® 107-02-8)
- Acrylamide (CAS No.® 79-06-1) or n-methylolacrylamide (CAS No.® 924-42-5)
- Acrylonitrile, acrylonitrile co-polymers, or Polyacrylonitrile (PAN)
- Adipates
- Aflatoxin and Mycotoxin; or derivatives of these substances
- Alkylphenols
- Alkylphenol Ethoxylates, including nonylphenol ethoxylate and octylphenol ethoxylate
- Allergens, including but not limited to those listed in EU Regulation 1169/2011, Directives 2000/13/EC, 2003/89/EC, and Section B.01.010.1 (1) of Canadian Regulation C.R.C., c. 870, and US FDA Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA) and the Food Allergy Safety, Treatment, Education, and Research (FASTER) Act of 2021 [US] such as: peanuts, tree nuts, milk or whey, eggs, soybeans, sesame, fish, shellfish.
- Alpha Methyl Styrene (AMS; CAS No.® 98-83-9)
- Aminoethylethanolamine; 2-(2-aminoethyl) ethanolamine (CAS RN® 111-41-1)
- 1-Amino-2-propanol (CAS RN® 78-96-6)
- Ammonium fluoride ((NH₄)F; CAS No.® 12125-01-8)
- Anthraquinone (CAS RN® 84-65-1)
- Antibiotics (e.g. Beta lactam or antibiotics other than beta lactam)
- Antimicrobial and anti-fungal additives for packaging protection not used
- Aromatic amines
- Arsenic (CAS No.® 7440-38-2) or arsenic related compounds
- Aziridine; Azacyclopropane (CAS No.® 151-56-4)
- Artificial Sweeteners (e.g. aspartame)
- Arylamines
- Asbestos
- 5-(4'-(azidomethyl)-5-(4'-(azidomethyl)-[1,1'-biphenyl]-2-yl)-1H-tetrazole [1,1'-biphenyl]-2-yl)-1H-tetrazo
- Azo and azoxyalkyl compounds (e.g. Azodicarbonamide; azo amines)
- Barium
- Barium sulfate (CAS No.® 7727-43-7) BaSO₄
- Benzalkonium chloride (BAC; CAS No.® 63449-41-2)
- 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters (CAS No.® 68648-93-1)
- 1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters (CAS No.® 68515-51-5)

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- 1,2 Benzenedicarboxylic acid, di-C8-10-branched alkyl esters, C9-rich (DINP; CAS No.® 68515-48-0)
- 1,2-benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich(DIDP; CAS No.® 68515-49-1)
- 1,2 Benzenedicarboxylic acid, di-C11-14 branched alkyl esters C-13 rich (CAS No.® 68515-47-9)
- 1,2-benzenedicarboxylic acid, dipentylester, branched and linear (CAS No.® 84777-06-0)
- Benzopentaphene (CAS No.® 189-55-9)
- Benzophenone (CAS No.® 119-61-9)
- Benzophenone compounds: e.g. 2,4-dihydroxybenzophene, benzophenone-1 (BP-1; CAS RN® 131-56-6); benzophenone-3 (BP-3; oxybenzone; CAS RN® 131-57-7); 4,4'-dihydroxy benzophenone (CAS RN® 611-99-4); 4-Methylbenzophenone (4-MBP; CAS RN® 134-84-9); 4-hydroxybenzophenone (4HBP; CAS RN® 1137-42-4)
- Benzoyl chloride (CAS No.® 98-88-4)
- beta-CARYOPHYLLENE (CAS No.® 87-44-5)
- Biphenyl-4,4'-diol; 4,4'-Dihydroxybiphenyl (CAS No.® 92-88-6)
- 2,2-Bis(4-hydroxyphenyl)propane bis(2,3-epoxypropyl) ether; synonym: Bisphenol A diglycidyl ether (BADGE) CAS® Number 1675-54-3, Bis (hydroxyphenyl)methane bis(2,3-epoxypropyl) ether (BFDGE), and/or Novolac glycidyl ethers (NOGE)
- Biocides (e.g. as defined by Biocidal Products Regulation (BPR) 528/2012 and 334/2014).
- Bisphenol compounds, including but not limited to: BPA (CAS RN® 80-05-7), BPAF, BPB (CAS RN® 77-40-7), BPC, BPE, BPF (CAS RN® 620-92-8), BPH, BPM (CAS RN® 13595-25-0) BPS (CAS RN® 80-09-1), and BPZ, or the Bisphenol analogues as listed by Canada CEPA Section 71/Appendix A (181 substances). (EU) 2024/3190; (EU) 2018/213 bisphenol substances not used.
- Bromine (CAS RN® 7726-95-6) and related compounds
- Brominated or halogenated flame retardants
- 1-Bromopropane (CAS No.® 106-94-5)
- Buckwheat
- Butylated Hydroxyanisole (BHA; CAS No.® 25013-16-5), and Tertiary butylhydroquinone (TBHQ; CAS No.® 1948-33-0)
- Carbohydrates
- Carbon disulphide; Carbon disulfide (CAS No.® 75-15-0)
- Catechol, also known as pyrocatechol or 1,2-dihydroxybenzene (CAS No.® 120-80-9)
- Cellulose
- Cerium (Ce) or cerium compounds
- Chloroethylene; Vinyl chloride (CAS No.® 75-01-4)
- Chlorofluorocarbons (CFC), hydrochlorofluorocarbons (HCFC), hydrofluorocarbons (HFC)
- Chlorinated flame retardants, (e.g. CAS No.® 13560-89-9, 135821-74-8, 135821-03-3)
- Chlorinated paraffins (short chain, medium chain, or long chain)
- Chlorinated polyvinyl chloride (CPVC; CAS No.® 68648-82-8)
- Chlorobenzenes: e.g. 1,2-Dichlorobenzene (CAS No.® 95-50-1), 1,3-Dichlorobenzene (CAS No.® 541-73-1), 1,4-Dichlorobenzene (CAS No.® 106-46-7), 1,2,4-Trichlorobenzene (CAS No.® 120-82-1), 1,2,4,5-Tetrachlorobenzene (CAS No.® 95-94-3), Pentachlorobenzene (CAS No.® 608-93-5), Hexachlorobenzene (CAS No.® 118-74-1)
- Chloroprene monomer (CAS No.® 126-99-8) and Polychloroprene (CAS No.® 9010-98-4)
- Chloropropanols: 1,3-Dichloropropanol (1,3-DCP; CAS RN® 96-23-1); 3-Monochloropropanediol (3-MCPD; CAS RN® 96-24-2)

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- Cholecalciferol (CAS No.® 67-97-0)
- Colophony (e.g. wood rosin, gum rosin, tree rosin or yellow rosin CAS No.® 8050-09-7)
- Cyanogen (CAS RN® 460-19-5)
- Cyanuric acid; 1,3,5-Triazinane-2,4,6-trione (CAS No.® 108-80-5; dihydrate 6202-04-6)
- Decabromodiphenyl ether (DecaBDE; DBDE; CAS No.® 1163-19-5)
- Dibenzo[b,def]chrysene; dibenzo[a,h]pyrene (CAS No.® 189-64-0)
- Dibutan-1-yl(dichloro)stannane (CAS No.® 683-18-1)
- Dibutyl Adipate (DBA; CAS No.® 105-99-7)
- Dibutyldithiocarbamate; N,N-dibutyldithiocarbamate (CAS No.® 22296-18-0)
- Dichloroacetic acid (DCA) CAS No.® 79-43-6
- 1,2-Dichlorobenzene; o-Dichlorobenzene (oDCB; CAS® No 95-50-1)
- 4,4'-Dichlorodiphenyl sulfone; DCDPS; 1,1'-Sulfonylbis(4-chlorobenzene); Bis(4-chlorophenyl) sulphone; (CAS RN® 80-07-9)
- 2,4-Dichlorophenol (CAS No.® 120-83-2)
- Di(ethylhexyl) adipate (DEHA), diethyl hydroxyl amine (DEHA), or di(ethylhexyl)maleate (DEHM)
- 2,6-Diisopropyl Naphthalene (DIPN; CAS No.® 24157-81-1)
- 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol (with ≥ 0,1 % of Michler's ketone or Michler's base) (CAS RN® 561-41-1)
- 3,3'-dimethyl-4,4'diaminodiphenylmethane (CAS No.® 838-88-0)
- 3,4-Dimethylbenzotrile (CAS RN® 22884-95-3)
- N,N-Dimethylethanolamine CAS RN® 108-01-0
- Dimethylfumarate (DMF; CAS RN® 624-49-7; C6H8O4) or methyl fumarate or mono-methyl fumerate (CAS® 2756-87-8; C5H6O4)
- Dimethyl phenyl carbinol/ α,α-Dimethylbenzyl alcohol/ 2-phenyl-2propanol (CAS No.® 617-94-7)
- 2-2'-Dimethoxy-2-phenylacetophenone (CAS No.® 24650-42-8)
- Dinitrogen oxide (CAS No.® 10024-97-2)
- Dioxins or furans; or derivatives of these substances
- Diphenylguanidine; DPG; Melaniline; N,N'-Diphenylguanidine; 1,3-Diphenylguanidine; (CAS No.® 102-06-7)
- Dithiocarbamates
- Divinyl adipate (CAS RN® 4074-90-2)
- Endocrine disruptors e.g. Alkylphenol ethoxylate (APE), Nonylphenol ethoxylate (NPE), Octylphenol ethoxylate (OPE).
- Epichlorohydrin (CAS No.® 106-89-8)
- Epoxidized Soybean Oil
- Epoxy derivatives listed in EU Directives 2002/16/EC and 1895/2005
- Epoxy Silanes
- Ethanol, 2,2'-iminobis-, N-(C13-15-branched and linear alkyl) derivs. (CAS No.® 97925-95-6)
- 2-Ethoxyethanol (CAS® Number 110-80-5) or 2-Methoxyethanol (CAS No.® 109-86-4)
- 2-Ethylanthraquinone (CAS No.® 84-51-5)
- Ethyl cyanoacrylate (CAS No.® 7085-85-0)
- Ethyl 4-dimethylaminobenzoate (EDAB; CAS No.® 10287-53-3)
- Ethylhexyl 4-(dimethylamino)benzoate (EHDAB; CAS No.® 21245-02-3)

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- 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (CAS RN® 15571-58-1)
- 4-Ethyl-octa-3-enenitrile (CAS No.® 29127-85-3)
- FDA Banned Food Additives: benzophenone, ethyl acrylate, eugenyl methyl ether, myrcene, pulegone, pyridine, styrene
- Flavors
- Fluazifop-butyl (CAS No.® 69806-50-4)
- Fluorescent Whitening Agent
- Fragrances
- Fungicides, preservatives (for the purpose of preserving food in packaging), or fumigants
- Gasoline, natural (CAS No.® 8006-61-9)
- Genetically modified organisms (GMO)
- Glycerin or glycerol (CAS No.® 56-81-5)
- Glycidyl fatty acid esters or glycidyl silanes
- Glycidyl methacrylate; Oxiran-2-ylmethyl methacrylate (CAS RN® 106-91-2)
- Glyoxal; 1,2-Ethanedione (CAS No.® 107-22-2)
- Glyphosphate (CAS No.® 107-83-6)
- Graphene
- Herbicides
- Hexabromocyclododecane (HBCDD; CAS® No. 3194-55-6), EU 2016/293 POPs
- Hexachlorobutadiene (HCBD; CAS No.® 87-68-3)
- Hexachlorobenzene (HCB; CAS No.® 118-74-1)
- Hexachlorocyclohexane (Lindane, CAS RN® 58-89-9; EU POP substance)
- Hexadecyltrimethoxysilane (CAS No.® 16415-12-6)
- Homosalate; Salicylic Acid 3,3,5-Trimethylcyclohexyl Ester (CAS No.® 118-56-9)
- Human materials, derivatives of human materials, blood or blood products
- Hydroquinone; 1,4-dihydroxybenzene (CAS RN® 123-31-9)
- 4-hydroxybenzophenone (4HBP; CAS RN® 1137-42-4); *see benzophenone compounds not used.*
- 1-Hydroxycyclohexyl phenyl ketone (CAS RN® 947-19-3)
- Iodopropynyl butylcarbamate (IPBC); 3-iodo-2-propynyl-butylcarbamate (CAS No.® 55406-53-6)
- 2-isobutoxyethanol (CAS No.® 4439-24-1)
- Isobutylacetate (CAS No.® 110-19-0) & n-butyl acetate (CAS No.® 123-86-4)
- Isocyanates
- Isopentyl Pentyl Phthalate a.k.a N-pentyl-isopentylphthalate (nPIPP); 1,2-Benzenedicarboxylic Acid 1-(3-Methylbutyl) 2-pentyl Ester (CAS No.® 776297-69-9)
- Isophorone (CAS No.® 4098-71-9)
- Isoprene (CAS RN® 78-79-5)
- Isopropylthioxanthone (CAS No.® 75081-21-9); 9H-Thioxanthen-9-one,2-(1-methylethyl)-; 2-Isopropylthioxanthone 2-ITX; CAS No.® 5495-84-1); 4-ITX CAS RN®
- Isothiazolinones: Benzisothiazolinone (CAS No.® 2634-33-5), Methylchlorisothiazolinone (CAS No.® 26172-55-4), Methylisothiazolinone (CAS No.® 2682-20-4); (CAS No.® 55965-84-9)
- Lactose (CAS No.® 63-42-3)
- Lanthanides

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- Latex (Natural rubber latex, dry natural rubber, or synthetic latex)
- Lignin
- Lindane (Hexachlorocyclohexane, CAS RN® 58-89-9; EU POP substance)
- Lithium hydroxide monohydrate (CAS No.® 1310-66-3)
- Maleic Anhydride; Furan-2,5-dione; 2,5-Furandione (CAS RN® 108-31-6)
- Manganese
- Manganese dichloride (CAS No.® 7773-01-5)
- Melamine (CAS No.® 108-78-1)
- 2-Mercaptobenzothiazole (2-MBT); Benzothiazolethiol C₆H₄SNCSH (CAS No.® 149-30-4)
- Mercury
- Methacrylate; 2-methylprop-2-enoate (CAS RN® 18358-13-9)
- Methanesulfonic acid (CAS No.® 75-75-2)
- Methyl acetate (CAS No.® 79-20-9)
- 4-Methylbenzylidene camphor; 1,7,7-trimethyl-3-[(4-methylphenyl)methylene]-bicyclo[2.2.1]heptan-2-one; 4-MBC (CAS RN® 36861-47-9)
- Methyl bromide; Bromomethane (CAS No.® 74-83-9)
- Methylidibromo Glutaronitrile (CAS No.® 35691-65-7)
- Methyl ethyl ketone (MEK); Methyl isobutyl ketone (MIBK; CAS No.® 108-10-1)
- Methylenedianiline (CAS RN® 101-77-9)
- Methylmercuric chloride (CAS® No 115-09-3)
- Methyl Methacrylate (MMA); Methyl 2-methylprop-2-enoate (CAS No.® 80-62-6)
- Michler's ketone; N,N,N',N'-Tetramethyl-4,4'-diaminobenzophenone; Bis[4-(dimethylamino)phenyl]methanone (CAS RN® 90-94-8)
- Microorganisms, yeast, mold, or bacteria not intentionally contained
- Methyl fumarate or mono-methyl fumerate (CAS RN® 2756-87-8; C₅H₆O₄)
- Monoethanolamine (CAS No.® 141-43-5)
- Monomethyl-dichloro-diphenyl methane
- Monosodium Glutamate (MSG; CAS RN® 142-47-2)
- Naphthalene (CAS RN® 91-20-3)
- Nitrites, Nitrates, Nitrosamines, Nitrosamines impurities: see section below
- Nitrocellulose (CAS RN® 9004-70-0)
- p-Nitrochlorobenzene (CAS No.® 100-00-5)
- Nitrofurazone (CAS RN® 59-87-0)
- N-ethyl pyrrolidone (NEP; RN® 2687-91-4)
- N-ethyl toluene sulfonamide (NETSA; RN® 8047-99-2)
- N-methyl-2-pyrrolidone; N-Methylpyrrolidone (NMP; CAS No.® 872-50-4)
- Nonyl phenol (NP; CAS No.® 25154-52-3)
- Nonyl phenol & Octyl phenol ethoxylates
- N-vinyl-2-pyrrolidone (CAS No.® 88-12-0)
- Octabromobiphenyl ether; Octabromodiphenyl ethers (Octa-BDE; CAS No.® 32536-52-0)
- 2-Octyl cyanoacrylate (CAS No.® 133978-15-1)
- Octocrilene; Octocrylene (CAS No.® 6197-30-4)
- Octylphenols

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- Optical brighteners
- Organotin compounds
- Organophosphate Halogenated Flame Retardants (HFRs; e.g. Dechlorane Plus, Tetrabromobisphenol A (TBBPA), polybrominated diphenyl ethers (PBDEs))
- Oxo-degradable additives, oxo-degradable plastics, or pro-oxidative additives
- Oxygen scavengers (to protect packaged food)
- Ozone-depleting chemicals; EU 2024/590; 2024/573 not applicable
- Parabens e.g. butyl paraben (CAS RN[®] 94-26-8), ethyl paraben (CAS RN[®] 120-47-8), methyl paraben (CAS RN[®] 99-76-3), propyl paraben (CAS RN[®] 94-13-3)
- Pentabromobiphenyl ether; Pentabromodiphenyl ethers (Penta-BDE; CAS No.[®] 32534-81-9)
- Pentachlorophenol (PCP; CAS No.[®] 87-86-5) See (EU) 2021/277 POPs
- Pentachlorothiophenol (PCTP; CAS No.[®] 133-49-3)
- 2,4-pentanedione (CAS No.[®] 123-54-6)
- Perchlorates
- Perchloroethylene (CAS No.[®] 27-18-4)
- Pesticides, Herbicides and fungicides (e.g. Hexachlorocyclohexane CAS RN[®] 58-89-9)
- Phenol-Formaldehyde Resin (CAS No.[®] 9003-35-4)
- Phenol, isopropylated phosphate (3:1); Tris(isopropylphenyl) phosphate (PIP; CAS RN[®] 68937-41-7)
- 2-phenylphenol (CAS No.[®] 90-43-7)
- Photoinitiators, including: benzophenone, hydroxybenzophenone, and 4-methylbenzophenone, and Isopropylthioxanthone (ITX)
- Phthalates, orthophthalates (see Phthalates section in PRO document and below)
- Phthalimide (CAS No.[®] 85-41-6)
- Plasticizers; including, but not limited to the 25 plasticizers (phthalates) listed on the FDA rule published in Federal Register on May 20, 2022 or Tricresyl Phosphate (TCP; CAS RN[®] 1330-78-5)
- Polyaminopropyl biguanide (PHMB; CAS No.[®] 27083-27-8)
- Polybrominated Diphenyl Ethers (PBDEs) included: decaBDE, octaBDE, and pentaBDE
- Polycarbonates
- Polychlorinated and Polybrominated Biphenyls (PCBs and PBBs)
- Polychlorinated and Polybrominated Terphenyls (PCTs and PBTs)
- Polychloronaphthalene (CAS No.[®] 70776-03-3)
- Polychloroprene (CAS No.[®] 9010-98-4)
- Polycyclic aromatic hydrocarbons (PAH), also called polyaromatic hydrocarbons
- Polyethylene terephthalate (PET; CAS No.[®] 25038-59-9)
- Polyethylene terephthalate glycol-modified (PET-G)
- Poly(glycolic acid) (PGA; PGA barrier; CAS RN[®] 26009-03-0)
- Polyhydroxyalkanoates (PHAs) polyesters produced by microorganisms/bacterial fermentation
- Polylactic Acid, Polylactic Acid as a rigid structure (CAS No.[®] 26100-51-6)
- Polystyrene or expanded Polystyrene (CAS RN[®] 9003-53-6) or other polymeric foam materials as shock absorbers (e.g. Expanded Polypropylene, Expanded Polyethylene, or Expanded Vinyl Acetate)
- Poly(trimethylene 2,6-naphthalate) (PTN; PTN barrier; CAS RN[®] 28779-81-9)
- Polyurethane

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- Polyvinyl acetate (CAS No.® 9003-20-7)
- Polyvinyl Alcohol
- Polyvinyl Chloride (CAS No.® 9002-86-2; PVC)
- Polyvinylidene chloride a.k.a. Polyvinylidene Dichloride (PVDC; CAS® Number 9002-85-1) or copolymers
- Propanedinitrile, 2-[[4-[[2-(4-cyclohexylphenoxy)ethyl]ethylamino]-2-methylphenyl]methylene]- (CHDP; CHPD; (CAS RN® 54079-53-7)
- Propiconazole (CAS RN® 60207-90-1)
- Propylidene Phthalide (CAS No.® 17369-59-4)
- Quizalofop-P-tefuryl (ISO); (+/-) tetrahydrofurfuryl (R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy]propionate (CAS No.® 200509-41-7)
- Radioactive Substances: No radiation sources are used to alter the product characteristics.
- Recycled materials (i.e. No post-consumer recycled materials utilized)
- Regenerated cellulose
- Resorcinol; Benzene-1,3-diol (CAS No.® 108-46-3)
- Rice plant derived substances
- Selenium
- Semicarbazide (CAS No.® 57-56-7)
- Silicic acid, sodium salt; Sodium silicate (CAS No.® 108-78-1)
- Sodium antimonate (CAS No.® 15432-85-6)
- Sodium bromide (CAS No.® 7647-15-6)
- Sodium fluoride (CAS No.® 7681-49-4)
- Sodium hydrosulfide (CAS No.® 16721-80-5)
- Sodium nitrite (CAS No.® 7632-00-0)
- Sodium sulfide (CAS No.® 1313-82-2)
- Sodium tetraborate (CAS RN® 1330-43-4)
- Sorbitol (CAS No.® 50-70-4)
- Stannous chloride; tin (II) chloride (CAS® Number 7772-99-8, 10025-69-1 (dihydrate))
- Starch (CAS No.® 9005-25-8)
- Sugars (sucrose, glucose/dextrose, fructose, lactose, galactose, maltose)
- Styrene (CAS® Number 100-42-5)
- Sulfonamides
- Terephthaloyl dichloride (CAS No.® 100-20-9)
- Tert-butyl methyl ether (TBME; CAS No.® 1634-04-4)
- 4-tert-butylphenol (CAS No.® 98-54-4)
- Tertiary butylhydroquinone (TBHQ; CAS No.® 1948-33-0)
- 2,2',4,4'-tetrabromodiphenyl ether; (BDE-47 CAS No.® 40088-47-9; 5436-43-1)
- Tetrachloroethylene; Perchloroethylene (CAS No.® 127-18-4)
- 2,3,7,8-Tetrachloro dibenzo p-dioxin (TCDD; CAS No.® 1746-01-6)
- 2,3,7,8 Tetrachloro dibenzo p-furan (TCDF; CAS No.® 51207-31-9)
- Tin & tin substances e.g. Tributyl tin (CAS No.® 688-73-3), Trioctyl tin (CAS No.® 869-59-0), Triphenyl tin (CAS No.® 892-20-6); dioctyltin bis(2-ethylhexylmercaptoacetate) (CAS No.® 15571-58-1)

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- Trimethylolpropane triacrylate (TMPTA) CAS RN[®] 15625-89-5
- Titanium Acetylacetonate (CAS RN[®] 17501-79-0)
- Titanium diisopropoxide bis(acetylacetonate) (RN[®] 17927-72-9)
- 1,1,1-Trichloroethane (CAS[®] No 71-55-6)
- Trichloroethylene (CAS No.[®] 79-01-6)
- Trichlorethyl phosphate; tris(2-chloroethyl) phosphate (TCEP; CAS RN[®] 115-96-8)
- Triclosan (2,4,4'-trichloro-2'-hydroxydiphenylether), Triclocarban
- Triethanolamine; 2,2',2''-nitrilotriethanol (CAS No.[®] 102-71-6)
- Trimellitate (e.g. Trimethyl trimellitate CAS No.[®] 2459-10-1, Tris-2-ethylhexyl trimellitate CAS No.[®] 3319-31-1)
- 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate (TXIB; CAS No.[®] 6846-50-0)
- Triphenyl phosphate (TPP; CAS No.[®] 115-86-6)
- Tris(1,3-dichloro-2-propyl) phosphate (TDCPP; CAS No.[®] 13674-87-8)
- 2,4,6-tris(tert-butyl)phenol; 2,4,6-Tri-tert-butylphenol (2,4,6-TTBP) (CAS No.[®] 732-26-3)
- Tris-Nonylphenol Phosphite (TNPP) (CAS No.[®] 26523-78-4)
- Vinyl acetate (CAS No.[®] 108-05-4)
- Vinylidene chloride (Dichloroethene), Vinyl Chloride Monomer (VCM; Chloroethylene CAS No.[®] 75-01-4), Polyvinyl Chloride (CAS[®] Number 9002-86-2; PVC), Polyvinylidene Dichloride (PVDC) or copolymers
- Zinc Chloride (CAS No.[®] 7646-85-7)
- Zinc di(acetate); Zinc acetate (CAS No.[®] 557-34-6)
- Zinc Diethyldithio Carbonate
- Zinc Diphenylguanidine

Nitrosamine related substances

To the best of our knowledge the manufacture of this product does not intentionally use nitrosamine or any of the following substances:

- HNO₂ (Nitrous Acid), HNO₃ (Nitric Acid)
- Nitrosamines, Nitrosamines impurities: N-nitrosodimethylamine (NDMA), N-Nitrosodiethylamine (NDEA), N-diisopropylnitrosoamine (NDIPA), N-ethyl-N-isopropylnitrosoamine (NEIPA); or nitrosating reagent NaNO₂
- Nitrites, Nitrates (e.g. NaNO₂ (Sodium Nitrite))
- NO (Nitric Oxide) e.g. as impurity in HNO₃ for nitration reactions
- Nitrosyl halides (e.g. ClNO, BrNO)
- Dinitrogen trioxide (N₂O₃), Dinitrogen tetraoxide (N₂O₄)
- Organic nitrites (e.g. t-BuONO)
- NH₂OH (Hydroxylamine)
- Ozone
- Chloramines; Nitroso (nitrite, nitrate, chloroamine) reagents
- Trimethylamine, diethylamine, triethylamine, Hunig's base, piperidine
- Azide reagents

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- N-Methyl-2-pyrrolidone (NMP)
- Tributyltin chloride CAS No.® 1461-22-9
- Nitrocellulose
- Dimethylacetamine/ N,N-dimethylacetamide (DMA) or Diethylacetamide (DEA),
- N-Nitroso-N-methyl-4-aminobutyric acid (NMBA)
- N-nitrozodiisopropylamine (DIPNA, CAS® 601-77-4), N-nitrosoethylisopropylamine (EIPNA)
- Triethylamine, Diethylamine, Monoethylamine, Diethanolamine, Trimethylamine, Dimethylamine
- Tributylamine (TBA), Dibutylamine
- Diisopropylethylamine (DIPEA)
- N-Methylmorpholine (NMM)
- Tetra Butyl Ammonium Bromide (TBAB)
- 2-Mercapto benzo thiozole (2-MBT; CAS RN® 149-30-4)

Phthalates

No phthalates (a.k.a. phthalate esters), including di-(2-ethylhexyl) phthalate (DEHP), dibutyl phthalate (DBP; CAS No.® 84-74-2), benzyl butyl phthalate (BBP), diisononyl phthalate (DINP), diisodecyl phthalate (DIDP), di-n-octyl phthalate (DNOP), diisobutyl phthalate (DIBP), dimethyl phthalate (DMP), and diethyl phthalate (DEP; CAS No.® 84-66-2) are intentionally added to this product. This product therefore meets the requirements of the Consumer Product Safety Improvement Act of 2008 and EU Directive 2005/84/EC. The 25 plasticizers (phthalates) listed on FDA rule published in Federal Register on May 20, 2022, are not used in Asterene® Polyethylene.

Other phthalates not used: ortho-phthalate, di-n-butyl phthalate, bis(2-methoxyethyl) phthalate (DMEP) CAS No.® 117-82-8., n-pentyl-isopentylphthalate CAS RN® 776297-69-9, Di-n-pentyl phthalate CAS RN® 131-18-0, Diisopentylphthalate CAS No.® 605-50-5, Diallyl phthalate CAS No.® 131-17-9; benzyl butyl phthalate (BBP) CAS RN® 85-68-7; dioctyl phthalate (DOP) CAS RN® 117-84-0.; Diisooctyl phthalate (DIOP CAS RN® 27554-26-3)

PFAS

None of the following Poly- and perfluoroalkyl substances (PFAS) substances are used in the formulation of Asterene® Polyethylene.

- PFAS as listed by the National Defense Authorization Act for Fiscal Year 2020 (NDAA) for TRI and through 2022 reporting year (180 substances) to EPA or per EU 2019/1021, 2020/784, 2021/115, and 2021/1297.
- Perfluorooctanoic Acid (PFOA) CAS RN® 335-67-1 and related compounds.
- Perfluorooctane Sulfonate (PFOS) CAS RN® 1763-23-1 and related compounds.
- Perfluorobutane Sulfonic Acid (PFBS) CAS RN® 375-73-5 and related compounds.
- Perfluorohexanoic Acid (PFHxA); Undecafluorohexanoic acid; Perfluorocaproic acid CAS RN® 307-24-4 and related compounds.
- Perfluorohexane sulfonic acids (PFHxS) CAS RN® 355-46-4], its salts, and related compounds.
- Hexafluoropropylene Oxide Dimer Acid (HPFO-DA) (“Gen-X”) CAS RN® 13252-13-6, 62037-80-3
- Perfluorobutanoic Acid (PFBA) CAS RN® 375-22-4 and related compounds.
- Perfluoroheptanoic Acid (PFHpA) CAS RN® 375-85-9 and related compounds.

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- Perfluorononanoic Acid (PFNA) CAS RN® 375-95-1 and related compounds.
- Perfluorodecanoic Acid (PFDA) CAS RN® 335-76-2 and related compounds.
- Perfluorododecanoic acid (PFDoA) CAS RN® 307-55-1 and related compounds.
- Perfluoroundecanoic Acid (PFUnDA) CAS RN® 2058-94-8 and related compounds.
- Perfluorotridecanoic Acid (PFTrDA) CAS RN® 72629-94-8 and related compounds.
- Perfluorotetradecanoic Acid (PFTDA) CAS RN® 376-06-7 and related compounds.
- Polytetrafluoroethylene (PTFE) CAS RN® 9002-84-0 not contained on purpose.
- CAS RN® 307-24-4 and related compounds.
- 2-(N-Ethylperfluorooctanesulfonamido)acetic acid; N-Ethyl perfluorooctanesulfonamidoacetic acid; Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]- CAS RN® 2991-50-6 and related compounds.
- 2-(N-Methylperfluorooctanesulfonamido)acetic acid; Glycine, N-[(1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctyl)sulfonyl]-N-methyl-; Glycine, N-[(heptadecafluorooctyl)sulfonyl]-N-methyl-; (Me-PFOSA-AcOH; NMeFOSAA) CAS RN® 2355-31-9 and related compounds.
- Perfluoropentanoic acid; Perfluorovaleric acid (PFPeA) CAS RN® 2706-90-3 and related compounds.
- Perfluorodecane sulfonic acid; hencosafluorodecanesulphonic acid; (PFDS) CAS RN® 335-77-3
- Perfluorononanesulfonic acid (PFNS) CAS RN® 68259-12-1 and related compounds.
- Perfluoroheptanesulfonic acid (PFHpS) CAS RN® 375-92-8 and related compounds.
- Perfluorononanesulfonic acid (PFPeS) CAS RN® 2706-91-4 and related compounds.
- Perfluorooctanesulfonamide (PFOSA) CAS RN® 754-91-6 and related compounds.
- Heptadecafluorodecanesulphonic acid; 1H,1H,2H,2H-Perfluorodecanesulphonic acid CAS RN® 39108-34-4 and related compounds.
- 2-(PERFLUOROHEXYL)ETHANE-1-SULFONIC ACID; 6:2 fluorotelomer sulfonic acid (6:2 FTSA) CAS RN® 27619-97-2 and related compounds.
- 6:2 fluorotelomer acrylate; (6:2 FTAc) (CAS RN® 17527-29-6) a.k.a. 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl prop-2-enoate and related compounds.
- Perfluorohexanesulphonic acid; 3,3,4,4,5,5,6,6-Nonafluoro-1-hexanesulfonic Acid; 4:2 FTS; 3,3,4,4,5,5,6,6-Nonafluorohexane-1-sulfonic Acid; CAS RN® 757124-72-4 and related compounds.
- N-Methylperfluorooctanesulfonamidoethanol CAS RN® 24448-09-7 and related compounds.
- Perfluorocarboxylic acids, (e.g. C9-C14 PFCAs linear and branched), their salts, and related substances per (EU) 2021/1297.

Regulatory or Industry Lists

To the best of our knowledge this product meets the following requirements as being within stipulated limits as listed as of this date:

- Stockholm Convention Persistent Organic Pollutants (POPs): Directive 850/2004/EC, EU 2016/293, EU 2019/1021, EU 2021/115, 2020/784, and 2021/277 substances not used.
 - [Listing of POPs in the Stockholm Convention](#)
 - [List of substances subject to POPs Regulation - ECHA \(europa.eu\)](#)
- Rotterdam Convention Prior Informed Consent (PIC) substances Annex III substances not used: <http://www.pic.int/TheConvention/Chemicals/AnnexIIIChemicals/tabid/1132/language/en-US/Default.aspx>
- Persistent, Bioaccumulative, and Toxic (PBT) substances¹ as restricted under US Code of Federal Regulations title 40, part 751, subpart E– “Regulation of Certain Chemical Substances and mixtures under section 6 of The Toxic Substances Control Act” (TSCA): also see substances not used:

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Decabromodiphenyl ether (DecaBDE); Phenol, isopropylated phosphate (3:1) (PIP (3:1)); 2,4,6-Tris(tert-butyl)phenol (2,4,6-TTBP); Hexachlorobutadiene (HCBD); and Pentachlorothiophenol (PCTP)

- Substances in the Japan Class I Specified Chemical list not used.
 - [J-CHECK\(English\) \(nite.go.jp\)](http://J-CHECK(English)(nite.go.jp))

Polyolefin Oligomeric Saturated Hydrocarbons (POSH)

Small amounts of oligomers are produced in the polyolefin process. Although lower molecular weight hydrocarbons are more readily removed, higher molecular weight hydrocarbons are reasonably anticipated to be present.

EU Medical Device Regulation (EU) 2017/745

(EU) 2017/745 is not applicable to Asterene® Polyethylene. See statements in this appendix or the respective Asterene® Polyethylene PRO documents on phthalates, endocrine disrupting chemicals (EDC) and the respective SDS for the carcinogenic, mutagenic, or toxic to reproduction ('CMR') statement. These statements apply to the resin, as sold by Aster Polymer Solutions Pte. Ltd., and the statements are not for molded articles and/or articles or pellets containing colorants, pigments, processing aids added during subsequent extrusion or conversion processes.

CMRs: See EU SDS for statement on Regulation (EC) No. 1272/2008 of the European Parliament and of the Council or US SDS section 2.

“MEDICAL APPLICATION CAUTION: Do not use this material in medical applications involving permanent implantation in the human body or permanent contact with internal body fluids or tissue fluids or tissues.

Do not use this material in medical applications involving brief or temporary implantation in the human body or contact with internal body fluids or tissues unless the material has been provided directly from Aster Polymer Solutions Pte. Ltd. or its legal affiliates under an agreement which expressly acknowledges the contemplated use.

Aster Polymer Solutions Pte. Ltd. and its legal affiliates makes no representation, promise, express warranty or implied warranty concerning the suitability of this material for use in implantation in the human body or in contact with internal body fluids or tissues.”

Other information

Country of origin (COO): Contact your Customer Account Coordinator (CAC), Customer Service Representative (CSR) or sales person.

Only Representative (OR) Services: Contact your sales representative.

CMRs: See EU SDS for statement on Regulation (EC) No. 1272/2008 of the European Parliament and of

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the Council or US SDS section 2.

US EPA SARA: See SDS

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