

STYRON™ 470 Natural Polystyrene

Product Information

Allergens

To the best of our knowledge, there are no raw materials, including additives, that have their origin in peanuts, soybeans, milk, eggs, fish, shellfish, tree nuts, and/or wheat or gluten. This evaluation is based on information provided by our raw material and additive suppliers. Therefore, although we believe this product to be free of the specified known allergy stimulating food substances, we cannot guarantee this.

Animal Derived Components

To the best of our knowledge, this product is not intentionally manufactured or formulated with ingredients of animal origin.

Conflict Minerals

Trinseo does not use conflict minerals in manufacturing its products. Conflict minerals are not necessary to the “functionality or production” of our products. Based on the information we have to date, we are not aware of any conflict minerals sourced from the DRC or adjoining countries in our supply chain.

Global Chemical Inventory Compliance

This product is a mixture, all of the ingredients are on or not required to be listed on the following Global Inventories: Australia - AICS (Australia Inventory of Chemical Substances), Canada - DSL (Domestic Substances List), China - IECSC (Inventory of Existing Chemical Substances in China), Europe - EINECS (European Inventory of Existing Chemical Substances)/ELINCS (European List of Notified Chemical Substances), Japan - ENCS (Existing and New Chemical Substances), Japan - ISHL (Industrial Safety and Health Law), Korea - KECL (Korean Existing Chemicals List), New Zealand - NZLoC (New Zealand Inventory of Chemicals), Philippines - PICCS (Philippine Inventory of Chemicals and Chemical Substances) and U.S. - TSCA (Toxic Substances Control Act).

Heavy Metals & CONEG

The heavy metals Cadmium, Lead, Mercury and Hexavalent Chromium are not used in the formulation of this material.

Samples, representative of the above named product have been analysed for the presence of above named elements. These substances could not be detected. The sensitivity of the methods used for the analysis is 5 ppm.

Persistent Organic Pollutants (POPs)

In response to your request for information regarding chemicals listed by the Stockholm Convention on Persistent Organic Pollutants (POPs Treaty), the above mentioned product is not manufactured or formulated with the below substances which are currently listed in Annex A, B and C on the following website: <http://chm.pops.int/Convention/ThePOPs/tabid/673/language/en-US/Default.aspx>.

Substances/Compounds

This product is not intentionally manufactured or formulated with the below substances or compounds; however, we do not analyze for these specific substances or compounds.

- Asbestos
- Azo colorants containing certain amines
- o-anisidine (CAS # 90-04-0)

RDS - STYRON™ 470 Natural Polystyrene

- 2-naphthylamine (CAS # 91-59-8)
- 3,3'-dichlorobenzidine (CAS # 91-94-1)
- Biphenyl-4-ylamine (CAS # 92-67-1)
- Benzidine (CAS # 92-87-5)
- o-toluidine (CAS # 95-53-4)
- 4-chloro-o-toluidine (CAS # 95-69-2)
- 4-methyl-m-phenylenediamine (CAS # 95-80-7)
- o-aminoazotoluene (CAS # 97-56-3)
- 5-nitro-o-toluidine (CAS # 99-55-8)
- 4,4'-methylene-bis-(2-chloroaniline) (CAS # 101-14-4)
- 4,4'-methylenedianiline (CAS # 101-77-9)
- 4,4'-oxidianiline (CAS # 101-80-4)
- 4-chloroaniline (CAS # 106-47-8)
- 3,3'-dimethoxybenzidine (CAS # 119-90-4)
- 3,3'-dimethylbenzidine (CAS # 119-93-7)
- 6-methoxy-m-toluidine (CAS # 120-71-8)
- 2,4,5-trimethylaniline (CAS # 137-17-7)
- 4,4'-thiodianiline (CAS # 139-65-1)
- 4-methoxy-m-phenylenediamine (CAS # 615-05-4)
- 4,4'-methylenedi-o-toluidine (CAS # 838-88-0)
- 4-amino azobenzene (CAS # 60-09-3)
- A mixture of: disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)-chromate(1-)
- Organostannic compounds
 - Dibutyltin (DBT)
 - Dioctyltin (DOT)
 - Tributyltin oxide (TBTO)
 - Tributyltin (TBT)
 - Triphenyltin (TPT)
- Phthalates
 - Butyl benzyl phthalate (BBP) (CAS # 85-68-7)
 - Dibutylphthalate (DBP) (CAS # 84-74-2)
 - Bis(2-ethylhexyl) phthalate (DEHP) (CAS # 117-81-7)

RDS - STYRON™ 470 Natural Polystyrene

- Di-iso-decyl phthalate (DIDP) (CAS # 68515-49-1, 26761-40-0)
- Di-isononyl phthalate (DINP) (CAS # 28553-12-0, 68515-48-0)
- Di-n-octyl phthalate (DnOP) (CAS # 117-84-0)
- Diisobutyl phthalate (DIBP) (CAS # 84-69-5)
- Di-n-hexyl phthalate (DNHP) (CAS # 84-75-3)
- 1,2-Benzenedicarboxylic, di-C6-8-branched alkyl esters, C7-rich (DIHP) (CAS # 71888-89-6)
- 1,2-Benzenedicarboxylic, di-C7-11-branched and linear alkyl esters (DHNUP) (CAS # 68515-42-4)
- Bis(2-methoxyethyl) phthalate (DMEP) (CAS # 117-82-8)
- n-Pentyl-isopentylphthalate (CAS # 84777-06-0)
- Di-n-pentyl phthalate (DPP) (CAS # 131-18-0)
- Diisopentylphthalate (DIPP) (CAS # 605-50-5)
- Monomethyl-dibromo-diphenyl methane bromobenzylbromotoluene, mixture of isomers (DBBT) (CAS# 99688-47-8)
- Monomethyl-dichloro-diphenyl methane (Ugilec 121)
- Monomethyl-tetrachloro-diphenyl methane (Ugilec 141) (CAS # 76253-60-6)
- Polychlorinated biphenyls (PCBs)
- Polychlorinated terphenyls (PCTs)
- Tris(aziridinyl)phosphin oxide (TEPA) (CAS# 545-55-1)
- Tris (2,3-dibromopropyl) phosphate (TRIS) (CAS# 126-72-7)
- Tris (aziridinyl) phosphin oxide (CAS # 545-55-1)
- Tri-o-cresyl phosphate (CAS # 78-30-8)
- Tris(2-chloroethyl) phosphate (CAS # 115-96-8)
- Tris (1,3-dichloro-2-propyl) phosphate (CAS # 13674-87-8)
- Tris(2-chloro-1-methylethyl) phosphate (CAS # 13674-84-5)
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Acenaphthylene (CAS # 208-96-8)
- Acenaphthene (CAS # 83-32-9)
- Anthracene (CAS # 120-12-7)
- Benzo[a]anthracene (CAS # 56-55-3)
- Benzo[a]phenanthrene or chrysene (CAS # 218-01-9)
- Benzo[a]pyrene (CAS # 50-32-8)
- Benzo[b]fluoranthene (CAS # 205-99-2)
- Benzo[e]pyrene (CAS # 192-97-2)
- Benzo[g,h,i]perylene (CAS # 191-24-2)
- Benzo[j]fluoranthene (CAS # 205-82-3)

RDS - STYRON™ 470 Natural Polystyrene

- Benzo[k]fluoranthene (CAS # 207-08-9)
- Benzo[j,k]fluorene or fluoranthene (CAS # 206-44-0)
- Dibenzo[a,h]anthracene (CAS # 53-70-3)
- Fluorene (CAS # 86-73-7)
- Indeno[1,2,3-cd]pyrene (CAS # 193-39-5)
- Naphthalene (CAS # 91-20-3)
- Phenanthrene (CAS # 85-01-8)
- Pyrene (CAS # 129-00-0)
- Dimethylfumarate (DMF) (CAS # 624-49-7)
- Pentachlorophenol (PCP) (CAS # 87-86-5)
- 1,2,4-Trichlorobenzene
- Formaldehyde (CAS # 50-00-0)
- Lead and its compounds
- Ozone depleting substances (ODS)
- Perfluorooctane sulfonates (PFOS) and PFOS salts
- Perfluorooctanic acid (PFOA) and esters
- Sulfur hexafluoride
- Polychlorinated and polybrominated dioxins and furans
- Radioactive substances
- Polychlorinated naphthalenes
- Short-chain chlorinated paraffins, C10-13 (SCCPs)
- Nonylphenols and Nonylphenol ethoxylates
- Antimony and its compounds
- Antimony trioxide
- Arsenic and its compounds
- Beryllium and beryllium oxide
- Nickel and its compounds
- Brominated flame retardants
- Chlorinated flame retardants
- Polyvinyl chloride (PVC) and PVC blends
- Fluorinated greenhouse gases
- Perfluorocarbon (PFC)
- Hydrofluorocarbon (HFC)
- Sulfuric fluoride (CAS # 2551-62-4)



- Hexabromocyclododecane (HBCDD)
- Natural Rubber Latex (CAS # 9006-04-6)
- 2-(3',5'-Di-tert-butyl-2'-hydroxyphenyl)benzotriazole (CAS# 3846-71-7)
- Perchlorates
- Bisphenol-A (CAS # 80-05-7)

North America Regulations

FDA Food Contact Status

When used unmodified for the manufacture of food contact articles, this resin will comply with the U.S. Food and Drug Administration Food Additive Regulation 21 CFR 177.1640.

Europe Regulations

CMR Substances

To the best of our knowledge, this product in the form as supplied by Trinseo does not contain substances classified as carcinogenic, mutagenic or toxic for reproduction of category 1A, 1B or 2 according to the criteria of Regulation (EC) No. 1272/2008, above the threshold concentrations defined in sections 3.5.3.1, 3.6.3.1 and 3.7.3.1 of Annex I.

We kindly remind you that for information on the components of our products and their concentration, you can refer to the Safety Data Sheet (SDS) and the Sales Specification. Any hazardous constituent at or above 1% (by weight) and any special hazardous substance with a lower reporting threshold (e.g. substances classified as carcinogens of category 1 and 2 in Europe) will appear in the ingredients section of the SDS for these products as required. If you are not sure that you are in possession of the latest version of a European Safety Data Sheet for the product(s) of interest to you, please contact the Trinseo Customer Information Group at CIG@trinseo.com.

REGULATION (EC) No 1005/2009 Ozone Depleting Substances

This product is not formulated with ozone depleting substances as defined in Annex I and II of REGULATION (EC) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009. (as amended by Commission Regulation (EU) No 744/2010 of 18 August 2010 and Commission Regulation (EU) No 1087/2013 and 1088/2013 of 4 November 2013).

EU Toy Directive 2009/48/EC

The DIRECTIVE 2009/48/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 June 2009 on the safety of toys is applicable for toys. Trinseo is producing plastic resins. These materials are not directly covered by this legislation. The only relevant part for resin producer is Annex II Part III, Chemical Properties and Appendix B, Classification of Substances and Mixtures.

The above listed resin is not classified as described in Appendix B.

The above listed resin does not containing Substances as listed in Annex II Part III Point 11, 12 and 13, except the following compounds:-

- Zinc Compounds, 0.35% Max.

However, please be advised that we do not analyze for this specific substances or compounds.



EU Food Contact

The composition of this product does not comply for use in contact with food according to the Commission Regulation (EU) 10/2011.

REACH

For information regarding REACH and SVHC (Substances of Very High Concern), please contact FTNSTPS@trinseo.com.

REACH Annex XVII

To the best of our knowledge this product is not intentionally manufactured or formulated with the compounds or substances listed in Annex XVII, Restrictions on the Manufacture, Placing on the market and Use of certain dangerous substances, mixtures and articles, of REGULATION (EC) No 1907/2006 as amended (including Commission Regulation (EU) 326/2015 of 02 March 2015).

For information on the components of our product(s) and their concentration, please refer to the Safety Data Sheet (SDS) and the Sales Specification. Hazardous constituents will be listed in the Composition Section of the SDS for this product if present at levels of 1% or above (by weight), or at any lower levels as required by applicable legislation (including but not limited to carcinogens, mutagens, reproductive toxicants and sensitizers). In addition, consult the Hazardous Decomposition Products section of the SDS and the Sales Specification for further information.

Trinseo does not routinely analyze for additional materials that are not listed in the SDS or Sales Specification.

RoHS

To the best of our knowledge, this product is not intentionally manufactured or formulated with the following substances listed in Article 4(1) of the EU Directive 2011/65/EC (RoHS (last amended by COMMISSION DELEGATED DIRECTIVE (EU) 1028/2016 and 1029/2016 of April 19, 2016)):

- Heavy metals (like cadmium, hexavalent chromium, lead and mercury)
- Polybrominated Biphenyls (PBB)
- Polybrominated Diphenyl Ethers (PBDE)
- Bis(2-ethylhexyl) phthalate (DEHP)
- Butyl benzyl phthalate (BBP)
- Dibutyl phthalate (DBP)
- Diisobutyl phthalate (DIBP)

Therefore, this product is in compliance with the requirements of Article 4.1 of the EU Directive 2011/65/EC.

However, please be advised that we do not routinely analyze our materials for these substances.

Toys EN 71

European Norm EN 71/3 (Edition 2013) relates to the safety of toys and their metal elements content. Table 1 in Part 3: "Migration of Certain Elements" provides a list of the limiting values for the migration of these elements from products used in the manufacture of the toys.

We herewith certify that the above mentioned material complies with the requirements of EN 71 Part 3 (Edition 2013).



We do not routinely analyze our products for these elements, but the data we have regarding metal element content in our materials are far below these limits and are therefore not likely to contribute to concentrations in the final toy material that is under consideration in this Standard EN 71/3 (Edition 2013).

The following substances which are listed in European Norm EN 71 Part 9 :

Table 2A (Flame Retardants), Table 2B (Colourants), Table 2C (Primary Aromatic Amines), Table 2D (Monomers-Migration), Table 2E (Solvents- Migration), Table 2F (Solvents – Inhalation), Table 2G (Wood Preservatives), Table 2H (Preservatives other than wood preservatives), Table 2I (Plasticizers), are not used or intentionally added in the formulation of the above mentioned materials above the threshold concentrations.

The only exemption is styrene monomer which is used in the polymerization and Ethylbenzene which is used as a solvent during the polymerization.

However, please be advised that we do not perform tests regarding Monomers migration, Solvents migration, Solvents inhalation and Plasticisers in accordance with EN 71 Part 10 & 11.

WEEE

Directive 2012/19/EU, requires that the formation of waste from electric and electronic equipment is reduced and properly managed.

This statement is intended to provide information on our product(s) so that you may assess the consequences of these directives on the E&E articles you manufacture and place on the EU market, or materials you supply to the affected industry.

Directive 2012/19/EU on WEEE: Selective treatment of the waste (Article 8 and Annex VII).

Article 8 requires that the waste management schemes (to be) set up by the producers, individually or collectively, ensure that the waste will be selectively treated for materials and components of the E&E waste in line with the requirements of Annex VII.

None of the following substances listed in Annex VII are intentionally added or used in formulation of the above mentioned resin:

- Asbestos
- Brominated flame retardants
- Chlorofluorocarbons (CFC), hydrochlorofluorocarbons (HCFC), hydrofluorocarbons (HFC), hydrocarbons (HC)
- Mercury
- Polychlorinated biphenyls,
- Radioactive substances
- Refractory ceramic fibres

Pacific Regulations

China Food Contact Status

The composition of this product in form as supplied by Trinseo complies with the applicable requirements of:

- China GB 4806.1-2016, Food Safety National Standard: General Safety Requirements for Food-Contact Materials and Articles 《食品安全国家标准 食品接触材料及制品通用安全要求》

RDS - STYRON™ 470 Natural Polystyrene

- China GB 4806.6-2016, Food Safety National Standard: Food-Contact Use Plastic Resin 《食品安全国家标准 食品接触用塑料树脂》
- China GB 9685-2016, Food Safety National Standard: Use of Additives for Food Contact Materials and Articles 《食品安全国家标准 食品接触材料及制品用添加剂使用标准》

Please contact our sales representative for more information





For more information on products, innovations, expertise, and other services available from Trinseo, visit www.trinseo.com, or contact us as indicated below.

PRODUCT STEWARDSHIP

Trinseo and its affiliated companies have a fundamental concern for all who make, distribute, and use their products and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products so that appropriate steps may be taken to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Trinseo products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

CUSTOMER NOTICE

Customers are responsible for reviewing their manufacturing processes and their applications of Trinseo products from the standpoint of human health and environmental quality to ensure that Trinseo products are not used in ways for which they are not suitable. Trinseo personnel are available to answer questions and to provide reasonable technical support. Trinseo product literature, including safety data sheets, should be consulted prior to the use of Trinseo products. Current safety data sheets are available from Trinseo.

No freedom from infringement of any patent owned by Trinseo or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the customer is responsible for determining whether products and the information in this document are appropriate for the customer's use and for ensuring that the customer's workplace and disposal practices are in compliance with applicable legal requirements. Although the information herein is provided in good faith and was believed to be accurate when prepared, Trinseo assumes no obligation or liability for the information in this document.

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS

Trinseo requests that customers refer to Trinseo's Medical Application Policy <http://www.trinseo.com/medical.htm> before considering the use of Trinseo products in medical applications. The restrictions and disclaimers set forth in that policy are incorporated by reference.

DISCLAIMER

TRINSEO MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, IN THIS DOCUMENT; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE (INCLUDING MEDICAL APPLICATIONS) ARE EXPRESSLY EXCLUDED. TRINSEO DISCLAIMS ANY AND ALL LIABILITY FOR LOSSES OR DAMAGES THAT MAY RESULT FROM THE USE OF TRINSEO PRODUCTS IN UNSUPPORTED USE. TRINSEO MAKES NO WARRANTIES, EXPRESS OR IMPLIED, THAT THE USE OF ANY TRINSEO PRODUCT WILL BE FREE FROM ANY INFRINGEMENT CLAIMS.

GENERAL NOTICE

For additional information not covered by the content of this document or to ensure you have the latest version of this document available, please refer to the Customer Information Group contact information on our website at www.trinseo.com/contact/.

Copyright ©Trinseo (2017) All rights reserved.
™Trademark of Trinseo S.A. or its affiliates

