

Exporting Products? Do They Contain Restricted Substances?



The safety of materials is a priority concern of countries around the world. Recent years have seen countries introduce more stringent safety laws and regulations, as well as tighten monitoring to eliminate quality hazards, and strengthen the safety management of materials.

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Chemical, Food and Pharmaceutical Products Division in STC (Guangdong) offers professional chemical testing services to help you navigate the ever-changing import regulations of different countries.

Restricted Substance	Characteristics	Main Use	Applicable Materials	Legislation
Azo dyes	Carcinogenic. Some are allergenic	Dyeing and printing	Textile, leather, artificial leather, print, inks	Annex XVII of REACH Legal Limit: 30 ppm (for total content of breakdown products aromatic amines)
Cadmium (Cd)	Heavy metals. non-biodegradable. dangerous for the environment, can cause kidney damage	Surface treatment of non-textile products. Pigment in colouring agent. Also in plastics as stabilizers and pigment.	Plastic, PVC, PU, pigment, printing, coatings and platings, lacquers, metals	Annex XVII of REACH Legal Limit: Paints 1000ppm; Metal components of jewellery or plastic materials 100 ppm
Chromium VI Cr (VI)	Dangerous for the environment, carcinogenic, allergenic and toxic	Tanning of leather with chromium salts is the most widely used method of tanning, where chromium VI may occur as an impurity. Chromium salts are also used for preparation and finishing of acid dyes on silk and wool.	Leather, textile	Annex XVII of REACH Legal Limit: 3 ppm
Polycyclic aromatic hydrocarbons (PAH)	Toxicity, genetic toxicity, mutagenicity and carcinogenicity	Formed by incomplete combustion or pyrolysis of various fossil fuels (such as coal, oil, natural gas, etc.), wood, paper, and other hydrocarbons	Rubber, plastic, clothing, footwear, toy	Annex XVII of REACH Legal Limit: Toys, children's care products < 0.5 ppm (each type of PAHs); Other products < 1 ppm (each type of PAHs)
Dimethyl fumarate (DMFu)	Fungicide. DMFu is harmful to skin and a strongly allergenic substance	Counteracts fungus growth in clothes, shoes and other leather items. DMFu can be found in silica gel bags, but is also applied to the product as a powder and/or in tablet form. DMFu has also been found in glue in shoes	Leather, textile, footwear, furniture, silica gel	Annex XVII of REACH Legal Limit: 0.1 ppm

Restricted Substance	Characteristics	Main Use	Applicable Materials	Legislation
Flame retardants, OctaBDE, TEPA, TCEP, Tris, PBBs	Persistent, bioaccumulative and toxic	Flame-retardant treatment of products where fire protection is required	Textile, footwear, furniture, mattresses, foams, carpets	Annex XVII of REACH Legal Limit: OctaBDE: 0.1% by weight; TEPA, TCEP, Tris, PBBs: not used
Formaldehyde	A carcinogen and can also cause skin irritation and allergy	Shrinkage-resistant treatment, wrinkle-resistant treatment, dye fixing agent, preservative	Textile, leather, wood based, products, resins, glue, cartons	Japan Japanese Law 112. Textiles for infants: Not detectable. Textiles in direct skin contact: 75 ppm. China GB 18401-2010. Textiles for infants and babies: ≤ 20 mg/kg. Textiles in direct skin contact: ≤ 75 mg/kg. Textiles not in direct skin contact: ≤ 300 mg/kg. The use of Formaldehyde is restricted in Germany, France, Finland, Netherlands, Norway, and Austria
Lead (Pb)	Heavy metals, highly toxic and suspected carcinogen. Children exposed to lead can suffer problems with concentration, memory, cognition, behaviour and lower IQ levels	Additive in plastics, lead pigments and stabilizers, lead added to glass or crystal to soften it for cutting and make it easier to polish	Paints, pigments, dyes & inks, coating metal, crystal, artificial leather	Annex XVII of REACH Legal Limit: Lead in jewellery 500 ppm U.S.CPSIA Legal Limit: lead in paint and other similar surface coating materials 90 ppm; lead in substrate 100 ppm
Nickel (Ni)	Nickel is one of the most common substances that cause contact dermatitis. Highly allergenic	Used in alloys in clothing accessories such as zippers, buttons and rivets	Metal	Annex XVII of REACH Legal Limit: 0.5 µg/cm ² /week for products intended to come into direct and prolonged contact with the skin; 0.2 µg/cm ² /week from piercing post assemblies
Nonyl phenol (NP), Nonyl phenol, ethoxylate (NPEO)	Irritating to skin, affects the respiratory system, has endocrine effects and is hazardous to the environment	Dispersing and emulsifying agents in textile chemicals as well as impregnation agents in printing pastes	Textile, leather, printing, paints, cosmetics	Annex XVII of REACH Legal Limit: 0.1% applied to use a preparations for textile and leather processing
Organotin	Highly toxic, endocrine disrupters, causes muscular weakness, breathing problems and severe skin, eye and mucous membrane irritation. Harmful to aquatic species	Used as an antimicrobial to reduce body odour in socks, underwear and sportswear, also used in odour-preventers in shoes. Stabilizer and catalyst in PU, PVC	Textile, leather, shoes, plastic, PVC, PU, wood	Annex XVII of REACH Legal Limit: Tri-substituted organostannic: 0.1% Dibutyltin (DBT): 0.1% Diocetyl tin (DOT): 0.1%
Phthalates	DEHP is classified as hazardous to health. BBP and DBP are classified as having health and environmental effects. DIDP shows concerns for hepatic toxicity. Many phthalates are suspected endocrine disrupters	Plasticizers in polymers, additives in adhesives, paints, lacquers, varnishes and solvents	Flexible / soft plastics, PVC, rubber / latex, plasticize, coated, leather	EU Annex XVII of REACH Legal Limit: DEHP, DBP, BBP, DIBP (each or total) ≤ 0.1% by mass of the plasticized material in toys and childcare articles; DEHP, DBP, BBP, DIBP (each or total) ≤ 0.1% & DINP+DIDP+DNOP ≤ 0.1% by mass of the plasticized material in toys and childcare articles which can be placed in the mouth by children. U.S. CPSIA Legal Limit: DEHP+DBP+BBP, DINP, DIBP, DNPP, DNHP or DCHP ≤ 0.1% in children's toys or childcare articles
Perfluorinated carboxylic acid containing 9-14 carbon atoms and their salts and related substances (C9-C14 PFCAs)	Toxic to the environment, bioaccumulative and persistent	In paint, textiles, wood and other uses, with waterproofing, oil, corrosion resistance	Textile, food packaging, fire fighting foam, detergent, cosmetics, easy to clean panel, paints, ink	Annex XVII of REACH Legal Limit: below 25 ppb for the sum of C9-C14 PFCAs and their salts or 260 ppb for the sum of C9-C14 PFCA-related substances

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