

Restricted Chemical	Main Application	Applicable Materials	Associated Hazard	Legislative Status and Requirement
Nitrosamines	By-product during manufacturing process	Rubbers	Genotoxic carcinogen	<ol style="list-style-type: none"> 1. EU Directive 93/11/EEC: teats and soothers (rubber part <10µg/kg) 2. Germany: Rubber balloons < 50µg/kg 3. USA: Pacifiers with rubber nipples < 10µg/kg 4. China: Not detected (< 0.5 mg/kg) on vulcanized shoes(rubber parts)
Total Lead	Added during the manufacturing process	All product coating and or substrate	<ol style="list-style-type: none"> 1.Affect the learning ability and induce various health problem 2.Affect the development of internal organs of children 	<ol style="list-style-type: none"> 1. EU REACH (EC 1907 /2006): < 500 ppm in textile and leather products after 1 June 2016 2. Denmark: a) Banned in all paints b) for others <100ppm 3. USA: a) In substrate <0.01% after 14 August 2011 b) In surface coating < 0.009% after 1 January 2010 4. China: ≤ 1 mg/kg in Upper, Lining, Innersole (Textile, Synthetic Leather)
Restriction of Hazardous Substances (RoHS)	Manufacturing, Constituent part of component	All electrical and electronic equipment exclude medical devices and control instruments	<ol style="list-style-type: none"> 1.Affect the human health 2.Affect the environment 	<p>EU Directive 2011/65/EC RoHS 2 banned for 10 hazardous substances for homogeneous material</p> <p>a) Lead, Mercury, Hexavalent Chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyls ether (PBDE), Bis (2-Ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) < 0.1% (by weight of each material)</p> <p>b) Cadmium <0.01%</p> <p>* Metal products only have to conduct four hazardous substances (Lead, Mercury, Hexavalent Chromium, Cadmium)</p> <p>EU REACH (EC 1907 /2006):</p> <p>a) Lead: Concentration (expressed as metal) <0.05% by weight</p> <p>b) Mercury compounds: banned in the textile industries</p> <p>c) Polybrominated biphenyls (PBB): banned in textile articles which intended to come into contact with the skin.</p> <p>d) Cadmium: < 0.01% by weight in specific plastic material produced</p>
Nonylphenol (NP) and Nonylphenol Ethoxylates (NPEs)	Added during additive process	Additive material on the following items: (a) Industrial and domestic cleaning (b) Textile and leather (c) Paper manufacturing (d) Cosmetic product	Affect ecological environment	<p>EU Directive 2003/53/EC Used as a substance of preparation in concentration <0.1%</p> <p>EU REACH (EC 1907 /2006) Products containing at least 80% textile fibers: NPE in concentrations < 0.01% after 2 February, 2021</p>
Perfluorooctane Sulfonates (PFOS)	Enhance the properties of water resistant, mechanical load and intense heat	Technical textiles	<ol style="list-style-type: none"> 1.Affect the human health 2.Affect the environment 	<ol style="list-style-type: none"> 1. EU Directive 2006/122/EC a) Used as a substance of preparation in concentration <0.005% b) Used on semi-finishing products, articles or parts thereof <0.1% c) Used on textiles or other coated materials: <1µg/m² 2. Sweden and British: imposed a national ban on PFOS 3. USA (EPA) imposed a ban on PFOS to restrict the use on carpets, textiles, clothing item and more; with exemptions only for a special uses in aviation, photography and microelectronic industries
Perfluorooctanoic Acid (PFOA)	Added during the manufacturing process	Domestic application of surface treatment to provide slippery and non-stick properties	<ol style="list-style-type: none"> 1.Affect the human health 2.Affect the environment 	<ol style="list-style-type: none"> 1. EU Directive 2004/1935/EC: PFOA is banned 2. Germany: proposed a restriction on PFOA in 2014 3. Norway: ≤ 1 µg/ m² (textiles or other coated materials), 0.1% by weight (solid product), 0.001% by weight (liquid mixtures)
Dimethylfumarate (DMF)	Used as a chemical substance for preventing moulds	Furniture/ leathers/ footwear/ textiles	<ol style="list-style-type: none"> 1.Affect the skin that may occur dermatitis, itching, irritation, redness, and burn 2.Cause difficulties in respiratory system 	<p>(EU) No. 412 /2012 <0.1mg/kg (Added to EU REACH Annex XVII in 2012)</p>
Chromium (VI)	May present where chromium chemicals have been used for tanning or dyeing	Leathers / textiles	<ol style="list-style-type: none"> 1.Carcinogen 2.Dermatological irritant 3.Environmental hazard 	<ol style="list-style-type: none"> 1. EU REACH (EC 1907 /2006): Leather articles in contact with skin: < 3 mg/kg of the total dry weight of the leather. 2. China: a) < 0.5ppm for knitted textile products for infants (≤ 36 months old or ≤ 100 cm in height) b) < 10mg/kg for children's footwear (≤14 years old, size of the shoes <250 mm (exclude children's rubber shoes)

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Total Cadmium	Stabiliser or pigment for plastic materials	Polymeric	Environmental hazard	1. EU REACH (EC 1907/2006): < 0.01% for particular plastic materials 2. (EC) No 2016/217: < 0.1 % for painted article. 3. China: (a) < 100 mg/kg for children's footwear (Size <250 mm) (b) < 75mg/kg for PVC artificial leather
Azodye (aromatic amines)	Dyed leathers and textiles	Coloured / dyed materials	Carcinogens	1. EU REACH (EC 1907 /2006): < 0.003% (Appendix 8 list); < 0.1% (Appendix 9 list) 2. China: a) Aromatic amines in leather and fur products: < 30mg/kg b) Decomposable carcinogenic aromatic amines: banned in any apparel, decoration textiles and household textiles 3. Japan: 24 aromatic amines in Household Products: <30mg/kg after April 1, 2016
Formaldehyde	1.Textile treatment 2.Occasionally used in tanning	Leathers / textiles / wood	Dermatological irritation	1. Finland : a) Textile for babies under 2-years old <30mg/kg b) Textile in direct skin contact <100mg/kg c) Textiles with no direct skin contact <300mg/kg 2. Netherlands: Textile after washing <120 ppm 3. Germany: a) Wood< 0.1 ppm b) Labeling requirement if textiles >1500mg/kg 4. USA (Minnesota Statutes, chapter 325F): <500 ppm in children's products (<8 years old), 5. China: a) Textiles/ Leather products for infants <20mg/kg b) Textiles/ Leather products in direct contact with skin <75mg/kg c) Textiles / Leather products not in direct contact with skin <300mg/kg 6. Japan: Textile for babies under 3-years old: not detected (< 16 mg/kg)
Nickel	Constituent part of component	Metallic components (in contact with skin)	1.Allergen 2.Contact dermatitis	1. EU REACH (EC 1907 /2006): <0.5µg/cm2 /week (products that prolonged contact with the skin) 2. EU Directive 2004/96/EC: < 0.2µg/cm2 /week (products that inserted into pierced ears or other part of human body) 3. China: < 1ppm for knitted textile products for infants
Tributyltin (TBT) Triphenyltin (TPT) Dibutyltin (DBT) Diocetyl tin (DOT)	1.Residues from production processes 2.Anti-microbial treatments	All	Affect reproductive system	EU Directive 2009/425/EC a) TBT&TPT <0.1% after 1 July 2010 b) DBT&DOT <0.1% after 1 January 2012 Japan (Law 112): not detected (< 0.5 ppm) for TBT
Pentachlorophenol (PCP)	Fungicide	Leather and natural textiles	Persistent environmental pollutant	1. Denmark/Germany/Netherlands: ≤5mg/kg 2. China: Not detected (< 0.5mg/kg)
Phthalates	Plasticization	PVC	Potential carcinogens and endocrine disruptors	1. EU Directive 2005/84/EC a) All the toys for infants and young children: <0.1% of DEHP, DBP, BBP b) All the toys that come to direct contact with the mouths of infants and young children should contain <0.1% of DINP, DIDP, DnOP 2. USA: DINP and DIDP are restricted in toys and child care articles that can be placed in the mouth 3. China: DEHP, DBP, BBP, DINP, DIDP, DNOP: < 0.1% by weight for Infant's footwear (0-36 months, ≤170mm) 4. Japan: a) DBP, BBP, DEHP: < 0.1% by mass of the plasticized material in toys b) Synthetic resins whose major component is PVC made with DINP as material (except the parts that are intended to come in contact with infant's mouth) must not be used as materials for toys
Disperse dyes	Dyeing fabric	Synthetic fibers (such as polyester) and inter alia for sportswear	skin sensitizers - allergy and rashes	1. 2016 OEKO-TEX standard 100: 21 dyestuffs and pigments are classified as Banned Allergenic Dyes: - Disperse Blue 1,3,7,26,35,102,106,124 - Disperse Brown 1 - Disperse Orange 1,3,37,76 - Disperse Red 1,11,17 - Disperse Yellow 1,3,9,39,49 2. Germany: not to be used (< 5mg/L) 3. China: allergenic disperse dyes < 0.006%
Carcinogenic dyes	Dyeing textile materials	Colored /dyed textile materials	Causing tumour or cancer	1. 2016 OEKO-TEX standard 100: 13 dyestuffs and pigments are classified as Banned Carcinogenic Dyes: Acid Red 26; Basic Red 9; Basic Violet 14; Direct Blue 6; Direct Black 38; Direct Red 28; Disperse Blue 1; Disperse Orange 11; Disperse Yellow 3 ; Basic Blue 26, Basic Violet 3, Pigment Red 104, Pigment Yellow 34 2. Eco-labeling schemes: not to be used (< 5mg/L)

The above information are the common regulated chemical substances related to textile, leather and other materials applicable to textile, footwear and furniture products, in USA, Europe, Japan and China. Other countries, such as or not limited to Canada, Mexico, Taiwan, Vietnam and South Korea have also developed or are developing laws and regulations in this aspect. In the United States, many states, including, but not limited to, California, Illinois, Maine and Washington have adopted laws regulating chemicals in consumer products.

Lists of regulated chemical substances are constantly changing, it remains the responsibility of the manufacturers and exporters to identify and comply with all applicable requirements as set out under these regulations and requirements by each country and other jurisdictions.

Contact Us! We also provide different kinds of product testing services in accordance with international & national standards, should you have any queries of our services, please contact our Textile, Furniture & Footwear Products Department at  Head Office: 10 Dai Wang Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong Unit B, 10/F, Block 1, Tai Ping Industrial Centre, No. 57 Ting Kok Road, Tai Po, N.T., Hong Kong  +852 3188 8845 / 3188 8846  +852 3188 8840  hktmd@stc.group  www.stc.group