



Enabling an Intelligent Planet

REACH SVHC Candidate List & Product Content (Negative) Declaration

Dear Customer:

Advantech, the global ePlatform Service Provider, pursues its social responsibility for global environmental preservation by committing to be compliant with REACH regulation (REGULATION (EC) No 1907/2006).

The European Union’s REACH regulation (The Registration, Evaluation, Authorization and Restriction of Chemicals) places obligations as manufacturers, importers and downstream users of chemical substances and preparations. It also places obligations on importers of products. Although the REACH regulation become effective on June 1, 2007, because of delayed application dates, REACH obligations are staggered and become effective in stages; different deadlines apply over the next ten (10) years. At this time, we are not aware of any products manufactured by Advantech that would require registration under REACH because “the substance is intended to be released under normal and reasonably foreseeable conditions of use.” Article 7(1)(b).

We are aware that **the substances included in the REACH Authorization list Annex XIV shall not be placed on the market after their sunset date (valid for all manufacturers located in EU):**

<http://echa.europa.eu/nl/addressing-chemicals-of-concern/authorisation/recommendation-for-inclusion-in-the-authorisation-list/authorisation-list>

We also are aware that Article 33 of REACH requires suppliers to inform the recipients and consumers if a purchased article contains more than 0.1%(by weight per article) of any substance(s) on the candidate list of substances of Very High Concern (SVHC). **Current number of substances in the SVHC candidate list = 173 (The European Chemical Agency (ECHA) published the first batch of 15 SVHC candidate list on October 2008, the second batch of 13 SVHC candidate list on January 2010, the third batch of 8 SVHC candidate list on June 2010, the fourth batch of 8 SVHC candidate list on December 2010, the fifth batch of 7 SVHC candidate list on June 2011, the sixth batch of 20 SVHC candidate list on December 2011, the seventh batch of 13 SVHC candidate list on June 2012, the eighth batch of 54 SVHC candidate list on December 2012, the ninth batch of 6 SVHC candidate list on June 2013, the tenth batch of 7 SVHC candidate list on December 2013, the eleventh batch of 4 SVHC candidate list on June 2014, the twelfth batch of 6 SVHC candidate list on December 2014, thirteenth batch of 2 SVHC candidate list on June 2015, fourteenth batch of 5 SVHC candidate list on December 2015, fifteenth batch of 1 SVHC on June 2016, and sixteenth batch of 4 SVHC on January 2017.)**

The substances included in the REACH Authorization List Annex XIV are not contained in Advantech Product **XXXXX**.

The following REACH candidate list of SVHCs are applicable to electronic industry parts or products, but are not present in Advantech Product **XXXXX** above the REACH reporting threshold of 0.1 wt% in the article:

Table 1 – REACH SVHCs –Not Present above 0.1 wt% in Advantech products

Date of ECHA inclusion	Substance	CAS Number	EC Number	Typical Use
2008/10/28	4,4'-Diaminodiphenylmethane(MDA)	101-77-9	202-974-4	Adhesives, plasticizer
2008/10/28	Diarsenic pentaoxide	1303-28-2	215-116-9	Wood preservative, metal hardener, dye production
2008/10/28	Diarsenic trioxide	1327-53-3	215-481-4	Wood preservative, oxidizing agent
2008/10/28	Sodium dichromate, dehydrate	7789-12-0 10588-01-9	234-190-3	Electroplating, paint and plastic coloration
2008/10/28	Dibutyl phthalate (DBP)	84-74-2	201-557-4	Plasticizer, ink

2008/10/28	Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-0	Plasticizer
2008/10/28	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	Plasticizer, adhesive, ink
2008/10/28	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, & γ -HBCDD)	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	247-148-4 221-695-9	Brominated flame retardant
2008/10/28	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	Flame retardant, plasticizer
2008/10/28	Bis(tributyltin)oxide (TBTO)	56-35-9	200-268-0	Antifouling agent in paint
2010/03/30	Acrylamide	79-06-1	201-173-7	waste water treatment and paper processing
2010/01/13	Aluminosilicate, Refractory Ceramic Fibres	--	650-017-00-8**	high-temperature insulation
2010/01/13	Zirconia Aluminosilicate, Refractory Ceramic Fibres	--	650-017-00-8**	high-temperature insulation
2010/01/13	2,4-Dinitrotoluene	121-14-2	204-450-0	gelatinizing-plasticizing
2010/01/13	Diisobutyl phthalate	84-69-5	201-553-2	tabilizer for nitrocellulose, cellulose
2010/01/13	Lead chromate	7758-97-6	231-846-0	pigment or coating agent in industrial
2010/01/13	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)***	12656-85-8	235-759-9	painting and coating agent
2010/01/13	Lead sulfochromate yellow (C.I. Pigment Yellow 34)***	1344-37-2	215-693-7	painting and coating agent
2010/01/13	Tris(2-chloroethyl)phosphate	115-96-8	204-118-5	an additive tabilizer and viscosity regulator with flame-retarding
2010/06/18	Boric acid	10043-35-3 11113-50-1	233-139-2 234-343-4	Uses include a multitude of applications, e.g. glass, ceramics, rubber, flame retardants, paints, industrial fluids, soldering products.
2010/06/18	disodium tetraborate anhydrous	1303-96-4 1330-43-4 12179-04-3	215-540-4	Uses include a multitude of applications, e.g. in glass and glass fibres, industrial fluids, flame retardants.
2010/06/18	Tetraboron disodium heptaoxide hydrate	12267-73-1	235-541-3	Uses include a multitude of applications, e.g. in glass and glass fibres, industrial fluids, flame retardants.
2010/12/15	Cobalt(II) sulphate	10124-43-3	233-334-2	manufacture of catalysts and driers, surface treatments (such as electroplating), corrosion prevention, production of pigments, decolourising (in glass, pottery), batteries, animal food supplement, soil fertilizer, and others.
2010/12/15	Cobalt(II) dinitrate	10141-05-6	233-402-1	The production of other chemicals and the manufacture of catalysts. Further applications may include surface treatment and batteries.
2010/12/15	Cobalt(II) diacetate	71-48-7	200-755-8	The manufacture of catalysts. Minor uses may include production of other chemicals, surface treatment, alloys, production of pigments, dyes, rubber adhesion, and feed additive.
2011/06/20	Strontium chromate	7789-06-2	232-142-6	Mainly used as corrosion inhibitor in coating mixtures used in the aeronautic/aerospace sector, in the coil coating sector of steel and aluminium and in the vehicle coating sector.
2011/06/20	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNU)	68515-42-4	271-084-6	Main uses in the past were as tabilizer in PVC, foam, adhesives and coatings.
2011/06/20	Hydrazine	302-01-2 7803-57-8	206-114-9	Mainly used as intermediate in the manufacture of hydrazine derivatives, as a monomer in tabilizer ons, as a corrosion inhibitor in water treatment and for metal reduction and refining of chemicals. It is also used as a propellant for aerospace vehicles and as fuel in military (emergency) power units.
2011/06/20	1-methyl-2-pyrrolidone	872-50-4	212-828-1	Mainly used as solvent in coatings, cleaning products, for electronic equipment manufacture, as well as in semiconductor industry, petrochemical processing, pharmaceuticals and agrochemicals.
2011/06/20	1,2-Benzenedicarboxylic acid, di-C6-8-branched	71888-89-6	276-158-1	Main uses in the past were as tabilizer in PVC and in sealants, coatings and potentially printing inks.

	alkyl esters, C7-rich (DIHP)			
2011/12/19	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	Used primarily as a reaction solvent or process chemical in a wide variety of applications. Used also as solvent for battery electrolytes, and possibly in other products such as sealants, adhesives, fuels and automotive care products.
2011/12/19	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	No registration for this phthalate compound has been submitted to ECHA. Hence, the substance seems not to be manufactured in or imported to the EU in quantities above 1 t/y. Main uses in the past were as stabilizer in polymeric materials and paints, lacquers and varnishes, including printing inks.
2011/12/19	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	205-426-2	Mainly used in the manufacture of polymer preparations and of ethoxylates. Further used as a component in adhesives, coatings, inks and rubber articles.
2011/12/19	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	202-918-9	Mainly used as curing agent in resins and in the production of polymer articles and also for manufacture of other substances. The substance may further be used in construction and arts.
2012/06/18	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	Mainly used as a solvent or as a processing aid in the manufacture and formulation of industrial chemicals, including use as an electrolyte solvent in lithium batteries.
2012/06/18	Diboron trioxide	1303-86-2	215-125-8	Used in a multitude of applications, e.g. in glass and glass fibres, frits, ceramics, flame retardants, catalysts, industrial fluids, metallurgy, nuclear, electrical equipment, adhesives, inks/paints, film developing solutions, detergents and cleaners, reagent chemicals, biocides and insecticides.
2012/06/18	Formamide	75-12-7	200-842-0	Mainly used as an intermediate in the manufacture of agrochemicals, pharmaceuticals and industrial chemicals. Minor uses as a solvent, as a laboratory reagent for quality control purposes in forensic laboratories, hospitals, pharmaceutical companies, food and drinks manufacturers and research laboratories. The substance seems to also be used as a stabilizer.
2012/06/18	Lead(II) bis(methanesulfonate)	17570-76-2	401-750-5	Mainly used in plating processes (both electrolytic and electroless) for electronic components (such as printed circuit boards). The substance seems to also be used for batteries in special applications.
2012/06/18	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	219-514-3	Mainly used as a hardener in resins and coatings. Also used in inks for the printed circuit board industry, electrical insulation material, resin moulding systems, laminated sheeting, silk screen printing coatings, tools, adhesives, lining materials and stabilizer for plastics.
2012/06/18	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β -TGIC)	59653-74-6	423-400-0	Mainly used as a solder mask ink in the EU. Also used in electrical insulation material, resin moulding systems, laminated sheeting, silk screen printing, coatings, tools, adhesives, lining materials and stabilizer for plastics.
2012/06/18	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with $\geq 0.1\%$ of Michler's	2580-56-5	219-943-6	Used in the formulation of inks, cleaners, and coatings, as well as for dyeing paper, packaging, textiles, plastic products, and other types of articles. It is also used in diagnostic and analytical applications.

	ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]			
2012/06/18	α,α -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	229-851-8	Mainly used in the formulation of printing and writing inks, for dyeing paper and in mixtures such as windscreen washing agents.
2012/06/18	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	209-218-2	Used in the formulation of writing inks and potentially other inks, as well as for dyeing a variety of materials.
2012/12/19	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1	Used in the manufacture of polyester and alkyd resins and plasticizers for thermoplastic polymers Used as hardeners for epoxy resins and chain cross-linkers for thermoplastic polymers
2012/12/19	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7, 13149-00-3, 14166-21-3	201-604-9, 236-086-3, 238-009-9	Intermediate for plasticizers, insect repellents and rust inhibitors Used as hardener in epoxy resins Used in the manufacture of polyester and alkyd resins
2012/12/19	Dibutyltin dichloride (DBTC)	683-18-1	211-670-0	Used as an additive in rubber, stabilizer in PVC plastics Used in the production of polyurethanes and silicones Used in insulations and coatings Used in the manufacture of organic esters used in plasticizers and lubricants
2012/12/19	Lead bis(tetrafluoroborate)	13814-96-5	237-486-0	Used as electroplating solution for metal coating Used as curing agent for epoxy resins Used in the production of of linear polyesters Used cross-linkers for thermoplastic polymers
2012/12/19	Silicic acid, lead salt	11120-22-2	234-363-3	Used in lead crystalware manufacture
2012/12/19	4-Aminoazobenzene	60-09-3	200-453-6	Used as dye for lacquers, varnishes, wax products, oil strains and styrene resins
2012/12/19	Lead titanium zirconium oxide	12626-81-2	235-727-4	Used in the manufacture of electro-ceramic components
2012/12/19	Lead monoxide (lead oxide)	1317-36-8	215-267-0	Used in lead-acid storage batteries Used in electronic components Used as a vulcanizing agent in rubber and plastic Used in the manufacture of pigments for rubber, porcelain and glass
2012/12/19	Trilead bis(carbonate)dihydroxide	1319-46-6	215-290-6	Used in polyesters, polyethylene wire insulation, lead carbonate paper Used in ceramic glaze, pigment and color changing component of temperature sensitive inks Used as heat stabilizer for PVC Used in the processing of parchment
2012/12/19	Lead oxide sulfate	12036-76-9	234-853-7	Used in PVC processing
2012/12/19	Lead titanium trioxide	12060-00-3	235-038-9	Used in the manufacture of computer, electronic and optical products, electrical equipment

2012/12/19	Acetic acid, lead salt, basic	51404-69-4	257-175-3	Manufacture of computer, electronic and optical products, electrical equipment
2012/12/19	[Phthalato(2-)]dioxotrilead	69011-06-9	273-688-5	Used in PVC processing
2012/12/19	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	214-604-9	Used as flame retardant in plastics, textile and adhesive
2012/12/19	Tetralead trioxide sulphate	12202-17-4	235-380-9	Used in battery Used in PVC production
2012/12/19	N-pentyl-isopentylphthalate	776297-69-9	---	Used as plasticizers in plastic material
2012/12/19	Dioxobis(stearato)trilead	12578-12-0	235-702-8	Used in PVC processing
2012/12/19	Pentalead tetraoxide sulphate	12065-90-6	235-067-7	Used in lead battery production Used in PVC processing
2012/12/19	1-bromopropane (n-propyl bromide)	106-94-5	203-445-0	Used in textile, ink, adhesive and coatings
2012/12/19	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2	Used as plasticizers in plastic material
2012/12/19	Orange lead (lead tetroxide)	1314-41-6	215-235-6	Used in the manufacture of glass Used in glaze for faience and flux for porcelain painting Used as protective paint for iron and steel Used in adhesives for polyester tire cords Used in electrically conductive polymer compositions Used in the vulcanization of rubber
2012/12/19	Diisopentylphthalate	605-50-5	210-088-4	Used in the manufacture of propellant Used as plasticizer for PVC products and other polymers
2012/12/19	Lead cyanamidate	20837-86-9	244-073-9	Used as anticorrosive pigment
2013/06/20	Cadmium	7440-43-9	231-152-8	Used in contact, contact point, surface treatment, plating, pigment , battery, stabilizer , paint, ink.
2013/06/20	Cadmium oxide	1306-19-0	215-146-2	Used in contact, contact point, surface treatment, plating, pigment , battery, stabilizer , paint, ink.
2013/06/20	Dipentyl phthalate (DPP)	131-18-0	205-017-9	Plasticizer
2013/12/16	Cadmium sulphide	1306-23-6	215-147-8	Pigment, Additive, Catalyst
2013/12/16	Dihexyl phthalate	84-75-3	201-559-5	Plasticizer
2013/12/16	Lead di(acetate)	301-04-2	206-104-4	Coatings, paints, thinners, paint removes, fillers, putties, plasters, tabiliz clay
2013/12/16	Trixylyl phosphate	25155-23-1	246-677-8	functional fluid and flame retardant of plastics
2014/06/16	Cadmium chloride	10108-64-2	233-296-7	Coatings, paints
2014/06/16	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	271-093-5	Plasticizers and lubricants
2014/12/17	reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-	The reaction mass DOTE:MOTE is used in the production of PVC as heat tabilizer. Is present in various different consumer products: packaging, credit card, plastic pipes, windows, bags, bottles, toys, electric articles, textiles, etc. for the production of rigid PVC films and sheets.
2014/12/17	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	239-622-4	Used as tabilizer for PVC processing.
2014/12/17	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	247-384-8	Additive in plastics, UV absorber (packaging...). PBT, vPvB.
2014/12/17	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	223-346-6	Used as UV-absorbers for plastics (PVC, PET, PC, PA, ABS and other polymers), rubber, polyurethanes. PBT, vPvB.
2015/06/15	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of	68515-51-5 68648-93-1	271-094-0 272-013-1	Used for plasticisers and lubricants, including use in adhesives, coatings, building material, cable compounding, polymer foils, PVC compounds and artist

	dihexyl phthalate (EC No. 201-559-5)			supply (e.g. phosphor clay and finger paints)
2015/12/17	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	UV-protection agents in coatings, plastics, rubber and cosmetics
2015/12/17	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	UV-protection agents in coatings, plastics, rubber and cosmetics
2015/12/17	1,3-propanesultone	1120-71-4	214-317-9	Electrolyte fluid of lithium ion batteries
2016/06/20	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	200-028-5	Normally not manufactured intentionally but may occur as a constituent or impurity in other substances.
2017/01/12	4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	201-245-8	-Use as anti-oxidant for processing PVC; -Use in epoxy resin hardeners, epoxy adhesives and encapsulants; -Use for manufacturing thermal paper, polycarbonate, epoxy resins, coating materials
2017/01/12	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	-	-	-Used as water, oil and soil repellent in textile, leather and paper;
	Ammonium nonadecafluorodecanoate	3108-42-7	221-470-5	-Used as stain and grease-proof coatings on food packaging, furniture upholstery and carpet;
	Nonadecafluorodecanoic acid	335-76-2	206-400-3	-Used as component of fire-fighting foam;
	Decanoic acid, nonadecafluoro-, sodium salt	3830-45-3	-	-Used in nanosprays and impregnation sprays; -Used as lubricant, wetting agent, plasticiser and corrosion inhibitor

The SVHCs below are not applicable to electronic industry parts or products and would not be expected to be found in Advantech Product **XXXXX** :

Table 2 – REACH SVHCs – Not Expected to be Present in Electronic Industry Parts/Products

Date of ECHA inclusion	Substance	CAS Number	EC Number	Typical Use
2008/10/28	Anthracene	120-12-7	204-371-1	Dye production
2008/12/28 2011/06/20	Cobalt dichloride	7646-79-9	231-589-4	Drying agent
2008/10/28	5-tent-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	Scent
2008/10/28	Lead hydrogen arsenate	7784-40-9	232-064-2	Insecticide
2008/10/28	Triethyl arsenate	15606-95-8	427-700-2	Fabrication of Integrated Circuits
2010/01/13	Anthracene oil	90640-80-5	292-602-7	as components in bunker fuel, for impregnating, sealing and corrosion protection
2010/01/13	Anthracene oil, anthracene paste, distn. Lights *	91995-17-4	295-278-5	
2010/01/13	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	
2010/01/13	Anthracene oil, anthracene-low	90640-82-7	292-604-8	
2010/01/13	Anthracene oil, anthracene paste	90640-81-6	292-603-2	
2010/01/13	Coal tar pitch, high temperature	65996-93-2	266-028-2	heavy duty corrosion protection
2010/06/18	Trichloroethylene	79-01-6	201-167-4	Cleaning and degreasing of metal parts Solvent in adhesives Intermediate in the manufacture of chlorinated and fluorinated organic compounds
2010/06/18	Sodium chromate	7775-11-3	231-889-5	Laboratory (analytical agent) Manufacture of other chromium compounds

2010/06/18	Potassium chromate	7789-00-6	232-140-5	Treatment and coating of metals Manufacture of reagents and chemicals Manufacture of textiles Colouring agent in ceramics Tanning and dressing of leather Manufacture of pigments/inks Laboratory (analytical agent)
2010/06/18	Ammonium dichromate	7789-09-5	232-143-1	Oxidising agent Laboratory (analytical agent) Tanning of leather Manufacture of textiles Manufacture of photosensitive screens (cathode ray tubes) Metal treatment
2010/06/18	Potassium dichromate	7778-50-9	231-906-6	Chrome metal manufacturing Treatment and coating of metals Manufacture of reagents and chemicals Laboratory (analytical agent) Cleaning of laboratory glassware Tanning of leather Manufacture of textiles Photolithography Wood treatment Corrosion inhibitor in cooling systems
2010/12/15	Cobalt(II) carbonate	513-79-1	208-169-4	The manufacture of catalysts. Minor uses may include feed additive, production of other chemicals, production of pigments, and adhesion (in ground coat frit).
2010/12/15	2-Methoxyethanol	109-86-4	203-713-7	solvent, chemical intermediate and additive for fuels.
2010/12/15	2-Ethoxyethanol	110-80-5	203-804-1	solvent and chemical intermediate.
2010/12/15	Chromium trioxide	1333-82-0	215-607-8	Used for metal finishing and as fixing agent in waterborne wood preservatives.
2010/12/15	Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid	7738-94-5 13530-68-2	231-801-5 236-881-5	These acids and their oligomers are generated when chromium trioxide is dissolved in water.
2011/06/20	2-ethoxyethyl acetate	111-15-9	203-839-2	Main uses in the past were as solvent in coatings and in the chemical industry, but also as intermediate in the manufacture of cyanoacrylate adhesives.
2011/06/20	1,2,3-trichloropropane	96-18-4	202-486-1	Mainly used as intermediate in the manufacture of chlorinated solvents and agricultural products. It is also used as monomer. In the past 1,2,3-trichloropropane was used as solvent, paint and varnish remover and as degreasing agent.
2011/12/19	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	-	-	Refractory ceramic fibres are used for high-temperature insulation, almost exclusively in industrial applications (insulation of industrial furnaces and equipment, equipment for the automotive and aircraft/aerospace industry) and in fire protection (buildings and industrial process equipment).
2011/12/19	Aluminosilicate Refractory Ceramic Fibres (RCF)	-	-	Refractory ceramic fibres are used for high-temperature insulation, almost exclusively in industrial applications (insulation of industrial furnaces and equipment, equipment for the automotive and aircraft/aerospace industry) and in fire protection (buildings and industrial process equipment).
2011/12/19	Calcium arsenate	7778-44-1	231-904-5	Calcium arsenate is present in complex raw materials imported for manufacture of copper, lead and a range of precious metals. It appears mainly to be used as

				precipitating agent in copper smelting and to manufacture diarsenic trioxide. However, most of the substance seems to be disposed of as waste.
2011/12/19	Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	234-329-8	Mainly used in coatings in the aeronautic/ aerospace, steel and aluminium coil coating and vehicle coating sectors.
2011/12/19	Lead dipicrate	6477-64-1	229-335-2	No registration for this substance has been submitted to ECHA. Lead dipicrate is an explosive like lead diazide and lead styphnate. It may be used in low amounts in detonator mixtures together with the two other mentioned lead compounds.
2011/12/19	N,N-dimethylacetamide	127-19-5	204-826-4	Used as solvent, mainly in the manufacture of various substances and in the production of fibres for clothing and other applications. Also used as reagent, and in products such as industrial coatings, polyimide films, paint strippers and ink removers.
2011/12/19	Arsenic acid	7778-39-4	231-901-9	Mainly used to remove gas bubbles from ceramic glass melt and in the production of laminated printed circuit boards
2011/12/19	2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	Mainly used in the manufacture of dyes for tattooing and coloration of paper, polymers and aluminium foil.
2011/12/19	Trilead diarsenate	3687-31-8	222-979-5	Trilead diarsenate is present in complex raw materials imported for manufacture of copper, lead and a range of precious metals. The trilead diarsenate contained in the raw materials is in the metallurgical refinement process transformed to calcium arsenate and diarsenic trioxide. Whereas most of the calcium arsenate appears to be disposed of as waste the diarsenic trioxide is used further.
2011/12/19	1,2-dichloroethane	107-06-2	203-458-1	Mainly used for manufacture of other substances. Minor uses as solvent in the chemical and pharmaceutical industry.
2011/12/19	Pentazinc chromate octahydroxide	49663-84-5	256-418-0	Mainly used in coatings in the vehicle coating and aeronautic / aerospace sectors.
2011/12/19	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-1	Mainly used for manufacture of other substances. Minor uses are as hardener for epoxy resins, e.g. for the production of rolls, pipes and moulds, and as well for adhesives.
2011/12/19	Lead diazide, Lead azide	13424-46-9	236-542-1	Mainly used as initiator or booster in detonators for both civilian and military uses and as initiator in pyrotechnic devices.
2011/12/19	Phenolphthalein	77-09-8	201-004-7	Mainly used as laboratory agent (in pH indicator solutions), for the production of pH-indicator paper and in medicinal products.
2011/12/19	Dichromium tris(chromate)	24613-89-6	246-356-2	Mainly used in mixtures for metal surface treatment in the aeronautic/aerospace, steel and aluminium coating sectors.
2011/12/19	Lead styphnate	15245-44-0	239-290-0	Mainly used as a primer for small hospho and rifle ammunition. Other common uses are in munition pyrotechnics, powder actuated devices and detonators for civilian use.
2012/06/18	1,2-bis(2-methoxyethoxy)ethane (TEGDME;	112-49-2	203-977-3	Mainly used as a solvent or as a processing aid in the

	triglyme)			manufacture and formulation of industrial chemicals. Minor uses in brake fluids and repair of motor vehicles.
2012/06/18	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	202-027-5	Used as an intermediate in the manufacture of triphenylmethane dyes and other substances. Further potential uses include use as an additive (photosensitiser) in dyes and pigments, in dry film products and as a process chemical in the production of electronic circuit boards.
2012/06/18	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2	Used as an intermediate in the manufacture of dyes and other substances.
2012/06/18	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	208-953-6	Used mainly for paper colouring and inks supplied in printer cartridges and ball pens. Further uses include staining of dried plants, use as a marker for increasing the visibility of liquids, staining in microbial and clinical laboratories.
2012/12/19	Pyrochlore, antimony lead yellow	8012-00-8	232-382-1	Formulation of pyrochlore in glazes
2012/12/19	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	Chemical intermediate for dyes
2012/12/19	Henicosafuoroundecanoic acid	2058-94-8	218-165-4	Used in the production of fluoropolymers and fluorotelomers
2012/12/19	Lead dinitrate	10099-74-8	233-245-9	Used as mordant in dyeing and printing on textiles Used in rayon delustering, heat stabilizer in nylon and esterification catalyst for polyesters Used as a coating on paper for photothermography
2012/12/19	o-Toluidine	95-53-4	202-429-0	Used in the manufacture of dyes Used as an intermediate for synthetic rubber
2012/12/19	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	Used in paint for polyurethane, polyurethane finishing and sealants
2012/12/19	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped <i>[with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]</i>	68784-75-8	272-271-5	Used for coating glass lamp bulbs
2012/12/19	Furan	110-00-9	203-727-3	Used in the formation of lacquers and as a solvent for reins; Used in adhesive
2012/12/19	N,N-dimethylformamide	68-12-2	200-679-5	Used in acrylic fiber production Solvent for depositing polyurethane coatings on leather
2012/12/19	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated <i>[covering well-defined substances and UVCB substances, polymers and homologues]</i>	--	--	Used as surfactants Used in the formulation of paints Used as textile and leather auxiliaries Used in cleaning of metal surfaces
2012/12/19	4-Nonylphenol, branched and linear <i>[substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the</i>	--	--	Used as detergent and textile auxiliaries Used as a component of phenolic resins used in paper coatings Used as antioxidants and plasticizers in plastic products Used in paints and lacquers, varnishes, coloring

	<i>individual isomers or a combination thereof]</i>			agents, printing inks, adhesives and sealants Used in the manufacture of phenol-formaldehyde resins used in rubber
2012/12/19	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	Chemical intermediate for dyes
2012/12/19	Diethyl sulphate	64-67-5	200-589-6	Used in dye manufacture and pigment production Used as a finishing agent in textile manufacture and as a dye-set agent in carbonless paper
2012/12/19	Dimethyl sulphate	77-78-1	201-058-1	Used in polyurethane-based adhesives, fabric softeners and dyes
2012/12/19	N-methylacetamide	79-16-3	201-182-6	Chemical intermediate for the production of pesticide
2012/12/19	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	201-861-7	Used of process regulators for polymerization processes in production of resins, rubbers, polymers
2012/12/19	1,2-Diethoxyethane	629-14-1	211-076-1	Used as solvent and diluents for detergents Used as solvent for ester gum and some resin Used in ink formulations
2012/12/19	Tetraethyllead	78-00-2	201-075-4	Used as anti-knock additive in gasoline
2012/12/19	Pentacosafuorotridecanoic acid	72629-94-8	276-745-2	Used in the production of fluoropolymers and fluorotelomers
2012/12/19	Tricosafuorododecanoic acid	307-55-1	206-203-2	Used in the production of fluoropolymers and fluorotelomers
2012/12/19	Heptacosafuorotetradecanoic acid	376-06-7	206-803-4	Used in the production of fluoropolymers and fluorotelomers
2012/12/19	Methoxyacetic acid	625-45-6	210-894-6	Used in the manufacture of fabricated metal product
2012/12/19	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	202-453-1	Used I the preparation of dyes, polyurethane, impact resins, polyimides with superior wire coating properties
2012/12/19	Methyloxirane (Propylene oxide)	75-56-9	200-879-2	Used in the manufacture of polyethers, to form polyurethanes Used in the manufacture of detergent
2012/12/19	Trilead dioxide phosphonate	12141-20-7	235-252-2	Used in PVC processing
2012/12/19	o-aminoazotoluene	97-56-3	202-591-2	Used in the manufacture of dyes
2012/12/19	4,4'-oxydianiline and its salts	101-80-4	202-977-0	Chemical intermediate for polyimide and poly (ester-imide) resins
2012/12/19	Biphenyl-4-ylamine	92-67-1	202-177-1	Chemical intermediate for dyes
2012/12/19	Fatty acids, C16-18, lead salts	91031-62-8	292-966-7	Used in PVC processing
2012/12/19	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	Used as blowing agent for rubber and plastic
2012/12/19	Sulfurous acid, lead salt, dibasic	62229-08-7	263-467-1	Used as PVC processing
2013/06/20	Ammoniumpentadecafluorootanoate (APFO)	3825-26-1	223-320-4	Dispersing agents, surface active agent
2013/06/20	Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9	Surface treatments of paper, leather and textile products PVC Dispersant
2013/06/20	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	-	Agent in paint , emulsifier , cleaners
2013/12/16	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-	573-58-0	209-358-4	Dye, pH indicator

	sulphonate) (C.I. Direct Red 28)			
2013/12/16	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] - 5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	217-710-3	Dye
2013/12/16	Imidazolidine-2-thione; 2-imidazoline-2-thiol	96-45-7	202-506-9	an accelerator for vulcanizing polychloroprene (neoprene) and polyacrylate rubbers
2014/0616	Sodium peroxometaborate	7632-04-4	231-556-4	Oxidants
2014/0616	Sodium perborate; perboric acid, sodium salt	-	239-172-9; 234-390-0	Oxidants, bleaching agents
2014/12/17	Cadmium fluoride	7790-79-6	232-222-0	Used in phosphors and glass, dyeing on cotton, dyeing on cambric, viscose, vinylon, etc. Carcinogenic. Mutagenic.
2014/12/17	Cadmium sulphate	10124-36-4,31119-53-6	233-331-6	Used in phosphors and glass, dyeing on cotton, dyeing on cambric, viscose, vinylon, etc. Carcinogenic. Mutagenic. Toxic for reproduction.
2015/06/15	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	-	-	Main use of karanal is as a fragrance ingredient.
2015/12/17	Nitrobenzene	98-95-3	202-716-0	Manufacture of other substances
2015/12/17	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	206-801-3	Processing aid for fluoropolymer manufacture/lubricating oil additive/surfactant for fire extinguishers/cleaning agent/textile antifouling finishing agent/polishing surfactant/waterproofing agents and in liquid crystal display panels
2017/01/12	4-Heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	-	-	-Used as polymer intermediate; -Formulation into lubricants
2017/01/12	p-(1,1-dimethylpropyl)phenol	80-46-6	201-280-9	-Used in the production of phenolic resins, ethoxylated resins and lacquers; -Used as a germicide in cleaning solutions; -Used in adhesive, sealants, coatings and paints, thinners and paint removes; -Disulfide derivative as vulcanizing agent for the curing of rubber

If you have any questions concerning this letter, please contact your Advantech Representative. We will continue to monitor the status of future REACH SVHC candidate lists as part of our on-going compliance activities.

Sincerely,

A handwritten signature in black ink that reads "NJ Lin". The letters are cursive and slightly slanted.

NJ Lin
Corporate Quality / Manager
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