

Subject: REACH Substances of Very High Concern (SVHC) in Radisys Products

Radisys Product Family: All

Revision Date: July 18, 2014

Radisys Corporation is aware of the European Regulation EC 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). After review of the legislation and the definition of an “article” we believe the products we provide would be considered “articles”. Concerning the definition of section 7.1(b) which requires registration of an “article” only if it contains a regulated substance that “is intended to be released under normal or reasonably foreseeable conditions of use” we believe our products constitute non-registration “articles” for their intended use.

New substances are frequently added to the SVHC list. This document was updated based on the following additions to the SVHC list by the European Chemicals Agency (ECHA).

- September 2008 – 15 substances; Table 1, page 2
- January 2010 – 12 substances; Table 2, page 3
- March 2010 – 1 substance; Table 3, page 4
- June 2010 – 8 substances; Table 3, page 4
- December 2010 – 8 substances; Table 4, page 5
- June 2011 – 7 substances; Table 5, page 6
- December 2011 – 20 substances; Table 6, page 7
- June 2012 – 13 substances, Table 7, page 9
- December 2012 – 54 substances, Table 8, page 10
- June 2013 – 6 substances, Table 9, page 13
- December 2013 – 7 substances, Table 10, page 14
- June 2014 – 4 substances, Table 11, page 15

REACH requires manufacturers to notify customers when a SVHC is present in an “article” in excess of 0.1% by weight. In the event an SVHC is discovered in one of our products above the 0.1% limit customers will be notified.

Radisys certifies that it obtained and analyzed the information it provides in this document concerning the SVHC list using appropriate methods to ensure accuracy and that such information is true and correct to the best of its knowledge and belief, as of this documents revision date.

Questions about this information should be sent to orgRoHS@radisys.com.

Charlie Davis
Global Supply Chain

Table 1 – Substances added to the REACH SVHC list in September 2008.

Substance Name	CAS Number	Use Examples	Analysis Results
Anthracene	120-12-7	Dye and wood pulp production	Not found in Radisys products at this time ⁽¹⁾
4,4'- Diaminodiphenylmethane	101-77-9	Plasticizer, adhesive	Not found in Radisys products at this time ⁽¹⁾
Dibutyl phthalate	84-74-2	Plasticizer, ink, adhesives, glass fibers	Used in some capacitors and resistors. Maximum amount per component is .0000000000691 grams ⁽¹⁾
Cobalt dichloride	7646-79-9	Drying agent, rubber tire additive, humidity indicator	Not found in Radisys products at this time ⁽¹⁾
Diarsenic pentaoxide	1303-28-2	Dye, used to hardencopper and gold	Not found in Radisys products at this time ⁽¹⁾
Diarsenic trioxide	1327-53-3	Arsenide semiconductors, paint, wood preservative	Not found in Radisys products at this time ⁽¹⁾
Sodium dichromate, dihydrate	7789-12-0 10588-01-9	Electroplating	Not found in Radisys products at this time ⁽¹⁾
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	Fragrance	Not found in Radisys products at this time ⁽¹⁾
Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	Plasticizer (mainly PVC)	Not found in Radisys products at this time ⁽¹⁾
Hexabromocyclododecane (HBCDD)	25637-99-4 3194-55-6	Flame retardant	Not found in Radisys products at this time ⁽¹⁾
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	Flame retardant, plasticizer	Not found in Radisys products at this time ⁽¹⁾
Bis(tributyltin)oxide	56-35-9	Paint	Not found in Radisys products at this time ⁽¹⁾
Lead hydrogen arsenate	7784-40-9	Insecticide, stabilizer	Not found in Radisys products at this time ⁽¹⁾
Triethyl arsenate	15606-95-8	Insecticide, stabilizer	Not found in Radisys products at this time ⁽¹⁾
Benzyl butyl phthalate	85-68-7	Plasticizer (mainly PVC)	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 2 – Substances added to the REACH SVHC list in January 2010.

Substance Name	CAS Number	Use Examples	Analysis Results
Anthracene oil	90640-80-5	Paint, preservative oil, insecticide	Not found in Radisys products at this time ⁽¹⁾
Anthracene oil, anthracene paste, distn. lights	91995-17-4	Paint, preservative oil, insecticide	Not found in Radisys products at this time ⁽¹⁾
Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	Paint, preservative oil, insecticide	Not found in Radisys products at this time ⁽¹⁾
Anthracene oil, anthracene-low	90640-82-7	Paint, preservative oil, insecticide	Not found in Radisys products at this time ⁽¹⁾
Anthracene oil, anthracene paste	90640-81-6	Paint, preservative oil, insecticide	Not found in Radisys products at this time ⁽¹⁾
Diisobutyl phthalate (DIBP)	84-69-5	Plasticizer	Not found in Radisys products at this time ⁽¹⁾
2,4-Dinitrotoluene	121-14-2	Manufacture of explosives, polyurethane plastics, organic synthesis, dyes	Not found in Radisys products at this time ⁽¹⁾
Lead chromate	7758-97-6	Colorant in painting, printing inks, rubber and plastic	Not found in Radisys products at this time ⁽¹⁾
Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8	Additives for painting and coatings, printing inks and in plastics	Not found in Radisys products at this time ⁽¹⁾
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Paint, printing ink, plastic	Not found in Radisys products at this time ⁽¹⁾
Coal tar pitch, high temperature	65996-93-2	Paint, moisture seal	Not found in Radisys products at this time ⁽¹⁾
tris(2-chloroethyl)phosphate (TCEP)	115-96-8	Flame retardant, plasticizer	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 3 – Substances added to the REACH SVHC list in March and June 2010.

Substance Name	CAS Number	Use Examples	Analysis Results
Acrylamide	79-06-1	Thickening agents, dyes	Not found in Radisys products at this time ⁽¹⁾
Trichloroethylene	79-01-6	Solvents (degreaser)	Not found in Radisys products at this time ⁽¹⁾
Boric acid	10043-35-3 11113-50-1	Antiseptic, insecticide, flame retardant	Not found in Radisys products at this time ⁽¹⁾
Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3	Detergents, cosmetics, enamel glazes, buffer solutions, flame retardants, insecticides, flux for welding and brazing	Not found in Radisys products at this time ⁽¹⁾
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Detergents, cosmetics, enamel glazes, buffer solutions, flame retardants, insecticides, flux for welding and brazing	Not found in Radisys products at this time ⁽¹⁾
Potassium dichromate	7778-50-9	Oxidizing agent (hexavalent chromium compound)	Not found in Radisys products at this time ⁽¹⁾
Ammonium dichromate	7789-09-5	Pyrotechnics, mordant for dyeing, leather tanning	Not found in Radisys products at this time ⁽¹⁾
Potassium chromate	7789-00-6	A yellow chemical indicator	Not found in Radisys products at this time ⁽¹⁾
Sodium chromate	7775-11-3	Corrosion inhibitor, dyeing, wood preservative, pharmaceutical diagnostic	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 4 – Substances added to the REACH SVHC List in December 2010.

Substance Name	CAS Number	Use Examples	Analysis Results
Cobalt(II) sulphate	10124-43-3	Pigment in porcelains and glass, storage batteries, electroplating baths	Not found in Radisys products at this time ⁽¹⁾
Cobalt(II) dinitrate	10141-05-6	Metal-organic frameworks and coordination chemistry	Not found in Radisys products at this time ⁽¹⁾
Cobalt(II) carbonate	513-79-1	Pottery glazes	Not found in Radisys products at this time ⁽¹⁾
Cobalt(II) diacetate	71-48-7	Paint and varnish	Not found in Radisys products at this time ⁽¹⁾
2-Methoxyethanol	109-86-4	Varnishes, dyes, resins and airplane deicing solutions	Not found in Radisys products at this time ⁽¹⁾
2-Ethoxyethanol	110-80-5	Varnish removers and degreasing solutions	Not found in Radisys products at this time ⁽¹⁾
Chromium trioxide	1333-82-0	Chrome plating	Not found in Radisys products at this time ⁽¹⁾
Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid	7738-94-5 13530-68-2	Chromium plating, ceramic glazes, colored glass, band instrument repair, cleaning laboratory glassware	Used in some capacitors and resistors. Maximum amount per component is .000003 grams ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 5 – Substances added to the REACH SVHC List in June 2011.

Substance Name	CAS Number	Use Examples	Analysis Results
2-Ethoxyethyl acetate	111-15-9	Solvents, paints, wood stains and varnishes	Not found in Radisys products at this time ⁽¹⁾
Strontium chromate	7789-06-2	Corrosion inhibitor for aluminum	Not found in Radisys products at this time ⁽¹⁾
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	Cosmetics, nail polishes	Not found in Radisys products at this time ⁽¹⁾
Hydrazine	302-01-2 7803-57-8	Foaming/blowing agents, polymerization catalysts, control pH of water, space vehicle propellant	Not found in Radisys products at this time ⁽¹⁾
1-Methyl-2-pyrrolidone	872-50-4	Petrochemical processing, desulfurization of gases, industrial solvent, surface coatings, paint stripper	Not found in Radisys products at this time ⁽¹⁾
1,2,3-Trichloropropane	96-18-4	Paint or varnish remover, cleaning and degreasing, production of pesticides	Not found in Radisys products at this time ⁽¹⁾
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	Cosmetics, nail polishes	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 6 – Substances added to the REACH SVHC List in December 2011.

Substance Name	CAS Number	Use Examples	Analysis Results
Aluminosilicate refractory ceramic fibres	NA	Insulating fiber for industrial furnaces, pipes, ducts and cables	Used in some capacitors and resistors. Maximum amount per component is .00000021742 grams ⁽¹⁾
Arsenic acid	7778-39-4	Glass manufacturing, PCB copper foil production	Not found in Radisys products at this time ⁽¹⁾
Bis(2-methoxyethyl) ether	111-96-6	Battery electrolyte; paint, sealants and adhesive	Not found in Radisys products at this time ⁽¹⁾
Bis(2-methoxyethyl) phthalate	117-82-8	Adhesive, paint, lacquer, printing inks and varnish	Not found in Radisys products at this time ⁽¹⁾
Calcium arsenate	7778-44-1	Precipitates nickel from molten copper, pesticide and germicide	Not found in Radisys products at this time ⁽¹⁾
1,2-Dichloroethane	203-458-1	Vinyl chloride monomer production (a precursor to PVC), paint and adhesive. Banned in the U.S.	Not found in Radisys products at this time ⁽¹⁾
2,2'-dichloro-4,4'-methylenedianiline	101-14-4	Adhesive, pre-polymer for polyurethane, wood sealer	Not found in Radisys products at this time ⁽¹⁾
Dichromium tris(chromate) (hexavalent chromium)	24613-89-6	Anti-corrosion paint	Not found in Radisys products at this time ⁽¹⁾
Formaldehyde, oligomeric reaction products with aniline	25214-70-4	High performance polymer, epoxy resin, adhesive	Not found in Radisys products at this time ⁽¹⁾
Lead diazide; lead azide	13424-46-9	Pyrotechnics and detonators	Not found in Radisys products at this time ⁽¹⁾
Lead dipicrate	6477-64-1	Explosives	Not found in Radisys products at this time ⁽¹⁾
Lead styphnate	15245-44-0	Ammunition primer, pyrotechnics and detonators	Not found in Radisys products at this time ⁽¹⁾
2-Methoxyaniline; o-Anisidine	90-04-0	Tattoo dye, colorization of paper, polymers and aluminum foil	Not found in Radisys products at this time ⁽¹⁾
N,N-dimethylacetamide	127-19-5	Coatings, polyimide films, paint stripper, ink remover	Not found in Radisys products at this time ⁽¹⁾
Pentazinc chromate octahydroxide	49663-84-5	Anti-corrosive coatings (vehicles and aerospace)	Not found in Radisys products at this time ⁽¹⁾
Phenolphthalein	77-09-8	ph indicator, disappearing or color-changing inks	Not found in Radisys products at this time ⁽¹⁾
Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	Anti-corrosive coatings (vehicles and aerospace)	Not found in Radisys products at this time ⁽¹⁾
4-(1,1,3,3-Tetramethylbutyl) phenol	140-66-9	Polymer preparations, ethoxylate surfactant, coatings, adhesive	Not found in Radisys products at this time ⁽¹⁾

Trilead diarsenate	3687-31-8	Insecticide	Not found in Radisys products at this time ⁽¹⁾
Zirconia aluminosilicate refractory ceramic fibres	NA	Insulating fiber for industrial furnaces, pipes, ducts and cables	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 7 – Substances added to the REACH SVHC List in June 2012.

Substance Name	CAS Number	Use Examples	Analysis Results
α,α -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol	6786-83-0	Inks, paper dyeing and windscreen washing agents	Not found in Radisys products at this time ⁽¹⁾
N,N,N',N'-tetramethyl-4,4'-methylenedianiline	101-61-1	An intermediate in the manufacture of dyes and other substances	Not found in Radisys products at this time ⁽¹⁾
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	Solder mask and silk screen printing inks, adhesives, and stabilizers for plastics	Not found in Radisys products at this time ⁽¹⁾
Diboron trioxide	1303-86-2	Glass, flame retardants, ceramic powders, gallium arsenide wafers, inks, paints and adhesives	Used in some undercoats and resistors. Maximum amount per component is .000125 grams
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	A solvent or processing aid used in the manufacture of industrial chemicals	Not found in Radisys products at this time ⁽¹⁾
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	Inks and dyeing materials	Not found in Radisys products at this time ⁽¹⁾
Lead(II) bis(methanesulfonate)	17570-76-2	Used in plating processes for electronic components	Not found in Radisys products at this time ⁽¹⁾
Formamide	75-12-7	An intermediate in the manufacture of industrial chemicals, agrochemicals and pharmaceuticals	Not found in Radisys products at this time ⁽¹⁾
[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride	548-62-9	Paper coloring, inks supplied in printer cartridges and ball pens	Not found in Radisys products at this time ⁽¹⁾
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	A solvent or processing aid used in the manufacture of industrial chemicals	Not found in Radisys products at this time ⁽¹⁾
[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride	2580-56-5	Inks, cleaners, coatings and dyes for paper, packaging, textiles and plastic	Not found in Radisys products at this time ⁽¹⁾
1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	A hardener in resins and coatings, silk screen printing inks, adhesives, and stabilizers for plastics	Not found in Radisys products at this time ⁽¹⁾
4,4'-bis (dimethylamino) benzophenone	90-94-8	A process chemical in PCB production, an intermediate in the manufacture of triphenylmethane dyes	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 8 – Substances added to the REACH SVHC List in December 2012.

Substance Name	CAS Number	Use Examples	Analysis Results
Pyrochlore, antimony lead yellow	8012-00-8	Coatings, paints, thinners, paint removers, ink and toners	Not found in Radisys products at this time ⁽¹⁾
6-methoxy-m-toluidine (p-cresidine)	120-71-8	Manufacture of chemicals	Not found in Radisys products at this time ⁽¹⁾
Henicosafleuroundecanoic acid	2058-94-8	Water Stain and grease repellent	Not found in Radisys products at this time ⁽¹⁾
Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	Hardener of epoxy Resin and as immediate plasticizer, insect repellent, rust inhibitor.	Not found in Radisys products at this time ⁽¹⁾
Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3]	85-42-7, 13149-00-3, 14166-21-3	Coatings, epoxy resin solidifying agents, polyester resins, adhesives and plasticizing agents, etc	Not found in Radisys products at this time ⁽¹⁾
Dibutyltin dichloride (DBTC)	683-18-1	Used as organotin intermediate, a general-purpose stabilizers for polyvinyl chloride, an esterification catalyst, and a veterinary vermicide and tapeworm remedy	Not found in Radisys products at this time ⁽¹⁾
Lead bis(tetrafluoroborate)	13814-96-5	Metal and non-metal surface treatment	Not found in Radisys products at this time ⁽¹⁾
Lead dinitrate	10099-74-8	Heat stabilizer in nylon and polyesters	Not found in Radisys products at this time ⁽¹⁾
Silicic acid, lead salt	11120-22-2	Coatings, paints, thinners, paint removers	Not found in Radisys products at this time ⁽¹⁾
4-Aminoazobenzene	60-09-3	Dye	Not found in Radisys products at this time ⁽¹⁾
Lead titanium zirconium oxide	12626-81-2	Used in electronics (stereos, transducers, computer memory)	Not found in Radisys products at this time ⁽¹⁾
Lead monoxide (lead oxide)	1317-36-8	Glass making	Used in some capacitors and resistors. Maximum amount per component is .00002 grams
o-Toluidine	95-53-4	Dyes and cyanoacrylate adhesives	Not found in Radisys products at this time ⁽¹⁾
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	Unknown	Not found in Radisys products at this time ⁽¹⁾
Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped	68784-75-8	Coatings, paints, thinners, paint removers	Not found in Radisys products at this time ⁽¹⁾

Trilead bis(carbonate)dihydroxide	1319-46-6	Semiconductors	Not found in Radisys products at this time ⁽¹⁾
Furan	110-00-9	Used to create other chemicals	Not found in Radisys products at this time ⁽¹⁾
N,N-dimethylformamide	68-12-2	Acrylic fibers, plastics and adhesives	Not found in Radisys products at this time ⁽¹⁾
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	None	Used as intermediate for resins, rubber additives, antioxidants, fuel oil stabilizers, adhesives, dyestuffs, fungicides, and bactericides	Not found in Radisys products at this time ⁽¹⁾
4-Nonylphenol, branched and linear	None	Industrial surfactants	Not found in Radisys products at this time ⁽¹⁾
4,4'-methylenedi-o-toluidine	838-88-0	Unknown	Not found in Radisys products at this time ⁽¹⁾
Diethyl sulphate	64-67-5	An alkylating agent used to prepare ethyl derivatives	Not found in Radisys products at this time ⁽¹⁾
Dimethyl sulphate	77-78-1	Used as a reagent for methylation	Not found in Radisys products at this time ⁽¹⁾
Lead oxide sulfate	12036-76-9	Car batteries	Not found in Radisys products at this time ⁽¹⁾
Lead titanium trioxide	12060-00-3	Ferroelectric ceramics	Not found in Radisys products at this time ⁽¹⁾
Acetic acid, lead salt, basic	51404-69-4	Chemical reagent for the production of chemical compounds	Not found in Radisys products at this time ⁽¹⁾
[Phthalato(2-)]dioxotrilead	69011-06-9	Unknown	Not found in Radisys products at this time ⁽¹⁾
Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	Brominated flame retardant	Not found in Radisys products at this time ⁽¹⁾
N-methylacetamide	79-16-3	Used as a solvent, in electrochemistry, and as a pesticide.	Not found in Radisys products at this time ⁽¹⁾
Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	Herbicides	Not found in Radisys products at this time ⁽¹⁾
1,2-Diethoxyethane	629-14-1	Used as solvent and reaction medium for organic synthesis	Not found in Radisys products at this time ⁽¹⁾
Tetralead trioxide sulphate	12202-17-4	Unknown	Not found in Radisys products at this time ⁽¹⁾
N-pentyl-isopentylphthalate	776297-69-9	Unknown	Not found in Radisys products at this time ⁽¹⁾
Dioxobis(stearato)trilead	12578-12-0	Unknown	Not found in Radisys products at this time ⁽¹⁾
Tetraethyllead	78-00-2	Gasoline additive	Not found in Radisys products at this time ⁽¹⁾
Pentalead tetraoxide sulphate	12065-90-6	Unknown	Not found in Radisys

			products at this time ⁽¹⁾
Pentacosafuorotridecanoic acid	72629-94-8	Unknown	Not found in Radisys products at this time ⁽¹⁾
Tricosafuorododecanoic acid	307-55-1	Unknown	Not found in Radisys products at this time ⁽¹⁾
Heptacosafuorotetradecanoic acid	376-06-7	Unknown	Not found in Radisys products at this time ⁽¹⁾
1-bromopropane (n-propyl bromide)	106-94-5	Solvent for cleaning metal surfaces and removing flux residues	Not found in Radisys products at this time ⁽¹⁾
Methoxyacetic acid	625-45-6	Unknown	Not found in Radisys products at this time ⁽¹⁾
4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	Unknown	Not found in Radisys products at this time ⁽¹⁾
Methyloxirane (Propylene oxide)	75-56-9	Used for the production of polyurethane plastics	Not found in Radisys products at this time ⁽¹⁾
Trilead dioxide phosphonate	12141-20-7	Unknown	Not found in Radisys products at this time ⁽¹⁾
o-aminoazotoluene	97-56-3	Unknown	Not found in Radisys products at this time ⁽¹⁾
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Unknown	Not found in Radisys products at this time ⁽¹⁾
4,4'-oxydianiline and its salts	101-80-4	Unknown	Not found in Radisys products at this time ⁽¹⁾
Orange lead (lead tetroxide)	1314-41-6	Unknown	Not found in Radisys products at this time ⁽¹⁾
Biphenyl-4-ylamine	92-67-1	Unknown	Not found in Radisys products at this time ⁽¹⁾
Diisopentylphthalate	605-50-5	Plasticizer	Not found in Radisys products at this time ⁽¹⁾
Fatty acids, C16-18, lead salts	91031-62-8	Soaps	Not found in Radisys products at this time ⁽¹⁾
Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	Unknown	Not found in Radisys products at this time ⁽¹⁾
Sulfurous acid, lead salt, dibasic	62229-08-7	Unknown	Not found in Radisys products at this time ⁽¹⁾
Lead cyanamidate	20837-86-9	Unknown	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 9 – Substances added to the REACH SVHC List in June 2013.

Substance Name	CAS Number	Use Examples	Analysis Results
Cadmium	7440-43-9	Commonly used in batteries and electroplating	Used in some connectors. Maximum amount per component is .0182 grams ⁽¹⁾
Ammonium Pentadecafluorooctanoate (APFO)	3825-26-1	Ammonium salt often used in animal experiments	Not found in Radisys products at this time ⁽¹⁾
Pentadecafluorooctanoic acid	335-67-1	Used as a surfactant in emulsion polymerization of fluoropolymers	Not found in Radisys products at this time ⁽¹⁾
Dipentyl phthalate (DPP)	131-18-0	Used as a plasticizer	Not found in Radisys products at this time ⁽¹⁾
Cadmium oxide	1306-19-0	Used in silver-zinc storage batteries, Teflon, phosphors, semiconductors, silver alloys, glass, nematocides, ascaricides, catalysts, electroplating, ceramic glazes, and PVC heat stabilizers; [HSDB] Combined with an alkali-metal cyanide in baths for cadmium electroplating	Not found in Radisys products at this time ⁽¹⁾
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]	N/A	Used in the production of synthetics, stabilisers, as well as phenolic and epoxide-resins. The major part, however, is used in nonylphenol ethoxylate production	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 10 – Substances added to the REACH SVHC List in December 2013.

Substance Name	CAS Number	Use Examples	Analysis Results
Cadmium sulphide	1306-23-6	Pigments (plastics, paints, soaps, rubber, paper, glass, printing inks, ceramic glazes, textiles, fireworks), phosphors, fluorescent screens, semiconductors, photoconductors, solar cells, photomultipliers, radiation detectors, thin-film transistors, diodes / rectifiers, electron-beam pumped lasers, smoke detectors.	Not found in Radisys products at this time ⁽¹⁾
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	Dyes (cellulose, wool, silk, nylon, acetate, leather, plastics, plant fiber, and hog's hair), wood stains, biological stains, aqueous inks, & hair dyes.	Not found in Radisys products at this time ⁽¹⁾
Dihexyl phthalate	84-75-3	Plasticizers, plastisols for automobile parts and dip-molded products.	Not found in Radisys products at this time ⁽¹⁾
Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	The alkylthioureas used as rubber accelerators; insoles, adhesives, wet suits, detergents, plastics, textiles.	Not found in Radisys products at this time ⁽¹⁾
Trixylyl phosphate	25155-23-1	Flame retardants, plasticizers, hydraulic fluids.	Not found in Radisys products at this time ⁽¹⁾
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	Medical diagnosis (amyloidosis) and treatment (antihemolytic and detoxicant); Cotton, wool, & paper dye; Gelling agent for poly(vinyl alcohol);	Not found in Radisys products at this time ⁽¹⁾
Lead di(acetate)	301-04-2	Varnishes, lead driers, chrome pigments, antifouling paints, analytical reagents, astringents, water repellants, hair dyes, mordants for dyeing cotton; Used in gold cyanidation process, insecticides, cosmetics, and perfumes.	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.

Table 11 – Substances added to the REACH SVHC List in June 2014.

Substance Name	CAS Number	Use Examples	Analysis Results
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	Flexible PVC, rubbers, inks, lacquers; used in automobile products, such as battery covers; tool handles; dishwasher baskets; traffic cones; gloves; toys; shoes; conveyor belts.	Not found in Radisys products at this time ⁽¹⁾
Sodium perborate; perboric acid, sodium salt	-	Main uses are in detergents for laundries and dishwashers; used in denture cleaners and stain removers; used in cosmetics.	Not found in Radisys products at this time ⁽¹⁾
Sodium peroxometaborate	7632-04-4	Used in bleaching products and laundry and dishwashing products; used in cosmetics.	Not found in Radisys products at this time ⁽¹⁾
Cadmium chloride	10108-64-2	Used in photography; textile dyeing, mirror manufacturing, lubricants; fungicides, pyrotechnics, and electroplating; used in tinning solution and to make cadmium sulfide.	Not found in Radisys products at this time ⁽¹⁾

Note 1: Based on a full disclosure analysis of 3150 electronic components and consultation with our suppliers using the listed CAS numbers. This document will be updated as necessary to stay current with the official SVHC list.