ZODIAC™
ECOCENTRIC INKS

TECHNICAL BULLETIN

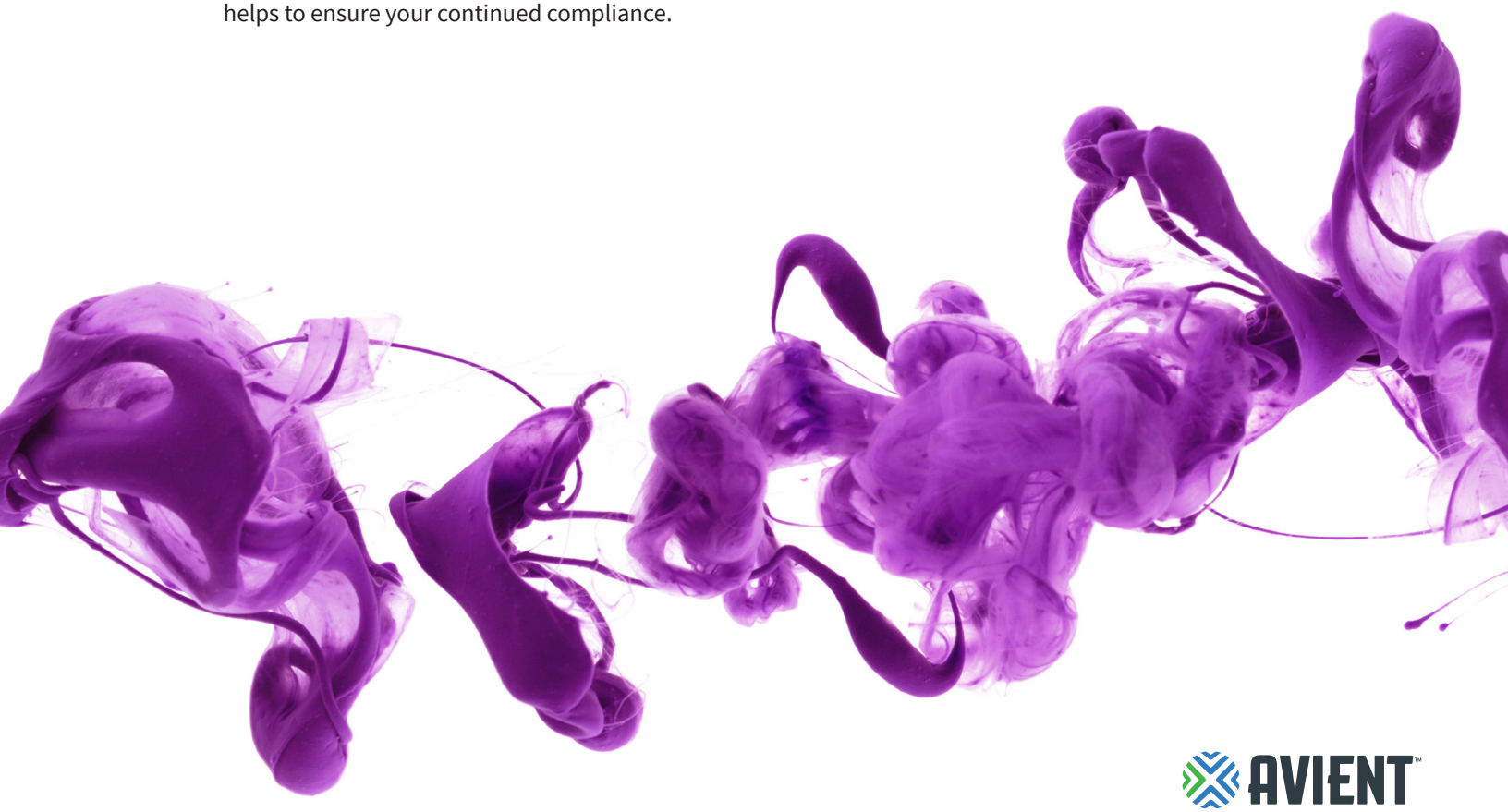
Avient™ Specialty Inks Restricted Substance List

Zodiac™ Eco-Conscious Inks

1.0 INTRODUCTION

Avient strives to provide printers with inks that are formulated to meet global and brand regulatory standards when supported by an effective system of quality management controls. This document outlines our efforts to support our customers' and consumers' safety.

Designed to simplify your navigation of the many Restricted Substance Lists (RSLs) and standards for quality and safety within the textile industry, the Zodiac™ RSL & Testing protocol incorporates the current requirements of even the strictest brand owners and helps to ensure your continued compliance.



AVIENT™

2.0 SCOPE

Zodiac™ Aquarius™ waterbased inks
Zodiac™ Libra™ silicone inks
Zodiac™ Taurus™ non-PVC inks

3.0 RESTRICTED SUBSTANCES

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
ALKYLPHENOL ETHOXYLATES (APEO)		
Heptylphenol	Various	50 ppm
Nonylphenol (NP)	25154-52-3, 104-40-5, 11066-49-2, 84852-15-3	Usage Ban (UB)
Nonylphenol ethoxylates (NPE)	9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0	UB
Octylphenol (OP)	27193-28-8, 140-66-9, 1806-26-4	UB
Octylphenol ethoxylates (OPE)	9002-93-1, 9036-19-5, 68987-90-6	UB
Pentylphenol	Various	0.05 ppm
ASBESTOS		
Actinolite	77536-66-4	UB
Amosite	12172-73-5	UB
Anthophyllite	77536-67-5/17068-78-9	UB
Chrysotile	12001-29-5	UB
Crocidolite	12001-28-4, 132207-33-1	UB
Tremolite	77536-68-6, 14567-73-8	UB
ARYLAMINES (AZO DYES)		
2,4,5-Trimethylaniline	137-17-7	14 ppm
2,4-Diaminoanisole	615-05-4	14 ppm
2,4-Toluylenediamine	95-80-7	0.5 ppm
2,4-Xylidine	95-68-1	14 ppm
2,6-Xylidine	87-62-7	14 ppm
2-Amino-4-nitrotoluene	99-55-8	14 ppm
2-Methoxyaniline/o-anisidine	90-04-0	14 ppm
2-Naphthylamine	91-59-8	0.5 ppm
3,3'-Dichlorobenzidine	91-94-1	14 ppm
3,3'-Dimethoxybenzidine	119-90-4	14 ppm

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
ARYLAMINES (AZO DYES)		
3,3’-Dimethylbenzidine	119-93-7	14 ppm
3,3'-Dimethyl-4,4'- diaminodiphenylmethane	838-88-0	14 ppm
4,4’-Diaminodiphenylmethane	101-77-9	14 ppm
4,4’-Methylene-bis-(2- chloraniline)	101-14-4	UB
4,4’-Oxydianiline	101-80-4	14 ppm
4,4’-Thiodianiline	139-65-1	14 ppm
4-Aminoazobenzene (pAAB)	60-09-3	14 ppm
4-Aminodiphenyl	92-67-1	14 ppm
4-Chloro-o-toluidine	95-69-2	14 ppm
Aniline	62-53-3	100 ppm
Benzidine	92-87-5	14 ppm
m-Toluidine	108-44-1	20 ppm
o-Aminoazotoluene	97-56-3	14 ppm
o-Toluidine	95-53-4	14 ppm
p-Chloroaniline	106-47-8	14 ppm
p-Kresidine/p-Cresidine	120-71-8	14 ppm
p-Toluidine	106-49-0	20 ppm
BIOLOGICALLY ACTIVE		
2-(thiocyanomethylthio) benzothiazol	21564-17-0	500 ppm
2-Methy-4-isothiazolin-3-one	2682-20-4	UB
2-Octyl-4-isothiazolin-3-one	26530-20-1	UB
4-Chloro-3-methylphenol	59-50-7	1000 ppm
5-Chloro-2-methy-4-isothiazolin-3-one	26172-55-4	UB
Orthophenylphenol (OPP)	90-43-7	10 ppm
BISPHENOL A (BPA)		
Bisphenol A	80-05-7	UB
SHORT-CHAINED CHLORINATED PARAFIN (SCCP)		
Chlorinated paraffins (C10-C13) (SCCP)	85535-84-8	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
DIOXINS AND FURANS		
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	100 ug/kg
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	100 ug/kg
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	100 ug/kg
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	100 ug/kg
1,2,3,4,7,8-Hexabromodibenzo-p-dioxin	110999-44-5	5 ug/kg
1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	5 ug/kg
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	5 ug/kg
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	100 ug/kg
1,2,3,6,7,8-Hexabromodibenzo-p-dioxin	110999-45-6	5 ug/kg
1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	5 ug/kg
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	5 ug/kg
1,2,3,7,8-Pentabromodibenzofuran	107555-93-1	5 ug/kg
1,2,3,7,8-Pentabromodibenzo-p-dioxin	109333-34-8	1 ug/kg
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	5 ug/kg
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	1 ug/kg
1,2,3,7,8,9-Hexabromodibenzo-p-dioxin	110999-46-7	5 ug/kg
1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	5 ug/kg
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	5 ug/kg
2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	5 ug/kg
2,3,4,7,8-Pentabromdibenzofuran	131166-92-2	1 ug/kg
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	1 ug/kg
2,3,7,8-Tetrabromodibenzofuran	67933-57-7/67733-57-7	1 ug/kg
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	1 ug/kg
2,3,7,8-Tetrabromodibenzo-p-dioxin	50585-41-6	1 ug/kg
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	1 ug/kg

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
DISPERSE AND OTHER ALLERGENIC/CARCINOGENIC DYES		
4,4'-bis(dimethylamino)-4'(methyl-amino) trityl alcohol (C.I. Solvent Violet 8)	561-41-1	50 ppm
4-Dimethylaminoazobenzene (C.I. Solvent Yellow 2)	60-11-7	20 ppm
α,α-Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4	6786-83-0	50 ppm
C.I. Acid Red 114	6459-94-5	UB
C.I. Acid Red 26	3761-53-3	5mg/L
C.I. Acid Violet 49	1694-09-3	UB
C.I. Basic Blue 26	2580-56-5	20 ppm
C.I. Basic Red 9	569-61-9	UB
C.I. Basic Violet 1	8004-87-3	20 ppm
C.I. Basic Violet 14	632-99-5	UB
C.I. Basic Violet 3	548-62-9	20 ppm
C.I. Direct Black 38	1937-37-7	UB
C.I. Direct Blue 15	2429-74-5	UB
C.I. Direct Blue 218	28407-37-6	20 ppm
C.I. Direct Blue 6	2602-46-2	UB
C.I. Direct Brown 95	16071-86-6	UB
C.I. Direct Red 28	573-58-0	UB
C.I. Disperse Blue 1	2475-45-8	UB
C.I. Disperse Blue 102	12222-97-8	5mg/L
C.I. Disperse Blue 106	12223-01-7	5mg/L
C.I. Disperse Blue 124	61951-51-7	5mg/L
C.I. Disperse Blue 26	3860-63-7	5mg/L
C.I. Disperse Blue 3	2475-46-9	5mg/L
C.I. Disperse Blue 35	12222-75-2, 56524-77-7	5mg/L
C.I. Disperse Blue 35A	56524-77-7	50 ppm
C.I. Disperse Blue 35B	56524-76-6	50 ppm
C.I. Disperse Blue 7	3179-90-6	5mg/L

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
DISPERSE AND OTHER ALLERGENIC/CARCINOGENIC DYES		
C.I. Disperse Brown 1	23355-64-8	5mg/L
C.I. Disperse Green 4	569-64-2, 2437-29-8, 10309-95-2, 18015-76-4	20 ppm
C.I. Disperse Orange 1	2581-69-3	5mg/L
C.I. Disperse Orange 11	82-28-0	5mg/L
C.I. Disperse Orange 149	85136-74-9	5mg/L
C.I. Disperse Orange 3	730-40-5	5mg/L
C.I. Disperse Orange 37/59/76**	12223-33-5/13301-61-6/51811-42-8	5mg/L
C.I. Disperse Red 1	2872-52-8	5mg/L
C.I. Disperse Red 104	12656-85-8	20 ppm
C.I. Disperse Red 11	2872-48-2	5mg/L
C.I. Disperse Red 151	61968-47-6	50 ppm
C.I. Disperse Red 17	3179-89-3	5mg/L
C.I. Disperse Yellow 1	119-15-3	5mg/L
C.I. Disperse Yellow 23	6250-23-3	5mg/L
C.I. Disperse Yellow 3	2832-40-8	5mg/L
C.I. Disperse Yellow 34	1344-37-2	20 ppm
C.I. Disperse Yellow 39	12236-29-2	5mg/L
C.I. Disperse Yellow 49	54824-37-2	5mg/L
C.I. Disperse Yellow 56	54077-16-6	50 ppm
C.I. Disperse Yellow 7	6300-37-4	UB
C.I. Disperse Yellow 9	6373-73-5	5mg/L
C.I. Solvent Red 23	85-86-9	50 ppm
C.I. Solvent yellow 14	842-07-9	20 ppm
Navy Blue	118685-33-9	UB
DIMETHYL FUMARATE (DMFU)		
Dimethyl Fumarate (DMFu)	624-49-7	0.1 ppm

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
FLAME RETARDANTS		
(TBBPA)	79-94-7	UB
2,2-bis (bromomethyl)-1,3-propanedial (BBMP)	3296-90-3	UB
Antimony pentoxide	1314-60-9	100 ppm
Antimony trioxide	1309-64-4	100 ppm
Bis (2,3-dibromopropyl) phosphate (BDBBP)	5412-25-9	UB
Boric acid	10043-35-3, 11113-50-1	100 ppm
Decabromodiphenyl ether (DecaBDE)	1163-19-5	UB
Diboron trioxide	1303-86-2	100 ppm
Dibromodiphenylether (diBDE)	Various	10 ppm
Disodium tetraborate	1303-96-4, 1330-43-4, 12179-04-3	20 ppm
Heptabromodiphenyl ether (hepta BDE)	446255-22-7, 207122-16-15/68928-80-3	UB
Hexabromocyclododecane (HBCDD)	25637-99-4, 3194-55-6	UB
Hexabromodiphenyl ether (hexa BDE)	68631-49-2, 207122-15-4, 36483-60-0	UB
Monobromodiphenylether (monoBDE)	Various	10 ppm
Nonabromodiphenylether	63936-56-1	10 ppm
Octabromodiphenylether (OctaBDE)	32536-52-0	UB
Pentabromodiphenylether (PentaBDE)	32534-81-9	UB
Polybrominated biphenyls (PBBs)	59536-65-1	UB
Tetraboron disodium heptoxide	12267-73-1	100 ppm
Tetrabromobiphenyl ether (tetra BDE)	5436-43-1	UB
Tri-(2, 3-dibromopropyl) phosphate (TRIS)	126-72-7/68112-30-1	UB
Tribromodiphenylether (triBDE)	Various	10 ppm
Tri-o-creyl phosphate	78-30-8	UB
Tris (1-chloro-2-propyl) phosphate (TCPP)	13674-84-5	10 ppm
Tris (1,3-dichloro-2-propyl) phosphate (TDCPP)	13674-87-8	UB
Tris (2-chloroethyl)phosphate (TCEP)	115-96-8	UB
Tris (aziridinyl) phosphinoxide (TEPA)	545-55-1	UB
Trixylyl phosphate (TXP)	25155-23-1	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
FLUORINATED GREENHOUSE GASES		
HFC-125 - C2HF5	354-33-6	UB
HFC-134 - C2H2F4	359-35-3	UB
HFC-134a - CH2FCF3	811-97-2	UB
HFC-143 - C2H3F3	430-66-0	UB
HFC-143A - C2H3F3	470-46-6, 420-46-2	UB
HFC-152a - C2H4F2	75-37-6	UB
HFC-227ea - C3HF7	431-89-0	UB
HFC-23 - CHF3	75-46-7	UB
HFC-236cb - CH2FCF2CF3	677-56-5	UB
HFC-236ea - CHF2CHFCF3	431-63-0	UB
HFC-236fa - C3H2F6	690-39-1	UB
HFC-245ca - C3H3F5	679-86-7	UB
HFC-245fa - CHF2CH2CF3	460-73-1	UB
HFC-32 - CH2F2	75-10-5	UB
HFC-365mfc - CF3CH2CF2CH3	406-58-6	UB
HFC-41 - CH3F	593-53-3	UB
HFC-43-10mee - C5H2F10	138495-42-8	UB
Perfluorobutane - C4F10	355-25-9	UB
Perfluorocyclobutane - c - C4F8	115-25-3	UB
Perfluoroethane - C2F6	76-16-4	UB
Perfluorohexane - C6F14	355-42-0	UB
Perfluoromethane - CF4	75-73-0	UB
Perfluoropentane - C5F12	678-26-2	UB
Perfluoropropane - C3F8	76-19-7	UB
Sulphur hexafluoride - SF6	2551-62-4	UB
FORMALDEHYDE		
Formaldehyde	50-00-0	16 ppm
GLYCOLS		
1,2-Bis (2-methoxy-ethoxy) ethane (TEGDME; triglyme)	112-49-2	50 ppm
1,2-Dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	50 ppm

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
GLYCOLS		
2-Ethoxyethanol	110-80-5	50 ppm
2-Ethoxyethyl acetate	111-15-9	50 ppm
2-Methoxyethanol	109-86-4	25 ppm
2-Methoxyethyl acetate	110-49-6	40 ppm
2-Methoxypropyl acetate	70657-70-4	50 ppm
Bis (2-methoxyethyl) ether	111-96-6	50 ppm
CHLORINATED SOLVENTS		
1,1,1,2-Tetrachloroethane	630-20-6, 79-34-5	1 ppm
1,1-Dichloroethane	75-34-3	10 ppm
1,2 Dichloroethane	107-06-2	5 ppm
1,2,3-Trichlorobenzene	87-61-6	1 ppm
1,2,3-Trichloropropane	96-18-4	100 ppm
1,2,4-Trichlorobenzene	120-82-1	1 ppm
1,2-Dichloroethylene	540-59-0, 156-59-2, 156-60-5	10 ppm
1,3-Dichlorobenzene	541-73-1	1 ppm
1,4-Dichlorobenzene	106-46-7	1 ppm
2,3,4,5-Tetrachlorophenol	4901-51-3	UB
2,3,4,6-Tetrachlorophenol	58-90-2	UB
2,3,4-Trichlorophenol	15950-66-0	0.2 ppm
2,3,5,6-Tetrachlorophenol	935-95-5	UB
2,3,5,6-Tetrachlorotoluene	1006-31-1	1 ppm
2,3,5-Trichlorophenol	933-78-8	0.05 ppm
2,3,6-Trichlorophenol	933-75-5	0.05 ppm
2,3-Dichlorophenol	576-24-9	0.5 ppm
2,3-Dichlorotoluene	32768-54-0	1 ppm
2,4,5-Trichlorophenol	95-95-4	0.05 ppm
2,4,6-Trichlorophenol	88-06-2	0.05 ppm
2,4-Dichlorophenol	120-83-2	0.5 ppm
2,4-Dichlorotoluene	95-73-8	1 ppm
2,5-Dichlorotoluene	19398-61-9	1 ppm

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
CHLORINATED SOLVENTS		
2,5-Dichlorophenol	583-78-8	0.5 ppm
2,6-Dichlorophenol	87-65-0	0.5 ppm
2,6-Dichlorotoluene	118-69-4	1 ppm
2-Chlorophenol	95-57-8	0.5 ppm
2-Chlorotoluene	95-49-8	1 ppm
3,4,5-Trichlorophenol	609-19-8	0.05 ppm
3,4-Dichlorophenol	95-77-2	0.5 ppm
3,4-Dichlorotoluene	95-75-0	1 ppm
3,5-Dichlorophenol	591-35-5	0.5 ppm
3-Chlorophenol	108-43-0	0.5 ppm
3-Chlorotoluene	108-41-8	1 ppm
4-chlorophenol	106-48-9	0.5 ppm
4-Chlorotoluene	106-43-4	1 ppm
Chlorobenzene	108-90-7	1 ppm
Chloroform	67-66-3	5 ppm
Chlorotoluenes	Various	1 ppm
Dichlorobenzenes	95-50-1	1 ppm
Dichlorotoluenes	Various	1 ppm
Hexachlorobenzene	118-74-1	UB
Methylene chloride	75-09-2	UB
Pentachlorobenzenes	608-93-5	UB
Pentachloroethane	76-01-7	10
Pentachlorophenol (PCP)	87-86-5	0.05 ppm
Pentachlorotoluene	877-11-2	UB
Tetrachlorobenzenes	Various- 634-66-2, 634-90-2, 95-94-3	UB
Tetrachloroethylene	127-18-4	UB
Tetrachlorophenol (TeCP)	25167-83-3	UB
Tetrachlorotoluenes	Various - 1006-32-2, 29733-70-8, 76057-12-0, 875-40-1	UB
Trichlorobenzenes	Various- 108-70-3, 120-82-1, 8-61-6, 12002-48-1	UB
Trichloroethane	71-55-6, 79-00-5	UB
Trichloroethylene	79-01-6	UB
Trichlorotoluene (isomers)	2077-46-5, 23749-65-7, 6639-30-1, 7359-72-0	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
HEAVY METALS - TOTAL		
Antimony	7440-36-0	50 ppm
Arsenic	7440-38-2	1 ppm
Barium	7440-39-3	100 ppm
Cadmium	7440-43-9	UB
Chromium	7440-47-3	100 ppm
Chromium VI (Cr VI) content	18540-29-9	UB
Cobalt	7440-48-4	500 ppm
Copper†	7440-50-8	250 ppm
Iron	7439-89-6	2500 ppm
Lead	7439-92-1	UB
Manganese	7439-96-5	1000 ppm
Mercury	7439-97-6	0.1 ppm
Nickel (Ni) release content	7440-02-0	0.28 ug/ kg per wk
Selenium	7782-49-2	20 ppm
Silver	7440-22-4	100 ppm
Tin	7440-31-5	250 ppm
Zinc	7440-66-6	1500 ppm
HEAVY METALS - EXTRACTABLE		
Antimony	7440-36-0	3 ppm
Arsenic	7440-38-2	UB
Barium	7440-39-3	1000 ppm
Cadmium	7440-43-9	0.1 ppm
Chromium	7440-47-3	1 ppm
Chromium (Cr6+) hexavalent	18540-29-9	UB
Cobalt	7440-48-4	1 ppm
Copper†	7440-50-8	25 ppm
Lead	7439-92-1	0.2 ppm
Mercury	7439-97-6	0.02 ppm
Nickel	7440-02-0	0.5 ppm
Selenium	7782-49-2	500 ppm

† Metallic Gold products may contain extractable Copper at levels in excess of 25 ppm.

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
NITROSAMINES		
N-Nitrosodibenzylamine (NDBzA)	5336-53-8	UB
N-Nitrosodibutylamine	924-16-3	UB
N-Nitrosodiethylamine	55-18-5	UB
N-Nitrosodiisononylamine (NDiNA)	643014-99-7	UB
N-Nitrosodimethylamine	62-75-9	UB
N-Nitrosodipropylamine	621-64-7	UB
N-Nitrosomorpholine	59-89-2	UB
N-Nitroso-N-ethylaniline	612-64-6	UB
N-Nitroso-N-methylaniline	614-00-6	UB
N-Nitrosopiperidine	100-75-4	UB
N-Nitrosopyrrolidine	930-55-2	UB
ORGANOTINS		
Bis (tributyltin) oxide (TBTO)	56-35-9	1000 ppm
Dibutyltin (DBT)	1002-53-5	UB
Dibutyltin dichloride (DBTC)	683-18-1	1000 ppm
Dimethyltin (DMT)	23120-99-2	UB
Dioctyltin (DOT)	15231-44-4	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
ORGANOTINS		
Diphenyltin (DPhT)		UB
Dipropylten (DPT)		1 ppm
Monobutyltin (MBT)		UB
Monomethyltin (MMT)		UB
Monooctyltin (MOT)		UB
Monophenyltin (MPhT)		UB
Tetrabutyltin (TeBT)		1 ppm
Tetraethyltin (TeET)		1 ppm
Tributyltin (TBT)	56573-85-4	UB
Tricyclohexyltin (TCyHT)		UB
Trimethyltin (TMT)		UB
Trioctyltin (TOT)		UB
Triphenyltin (TPhT)	668-34-8	UB
Tripropyltin (TPT)		UB
OZONE DEPLETING		
(CFC-111)	354-56-3	UB
(CFC-112)	76-12-0	UB
(CFC-113)		UB
(CFC-114)		UB
(CFC-115)		UB
(CFC-12)		UB
(CFC-13)		UB
(CFC-211)	422-78-6	UB
(CFC-212)	3182-16-1	UB
(CFC-213)	2354-06-5	UB
(CFC-214)	2268-46-4	UB
(CFC-215)	1652-81-9	UB
(CFC-216)	611-97-2	UB
(CFC-217)	422-86-8	UB
(Tetrachloromethane)	56-23-5	UB
121 (HCFC-121)	354-14-3	5 ppm

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
OZONE DEPLETING		
122 (HCFC-122)	354-21-2	UB
123 (HCFC-123)	306-83-2	UB
124 (HCFC-124)		UB
131 (HCFC-131)	359-28-4	UB
132 (HCFC-132)	431-06-1	UB
133 (HCFC-133)	75-88-7	UB
141 (HCFC-141)	430-57-9	UB
141 (HCFC-141b)	1717-00-6	5 ppm
142 (HCFC-142)		UB
142 (HCFC-142b)	75-68-3	5 ppm
21 (HCFC-21)	75-43-4	UB
22 (HCFC-22)	75-45-6	UB
221 (HCFC-221)	29470-94-8	UB
222 (HCFC-222)	422-49-1	UB
223 (HCFC-223)	422-52-6	UB
224 (HCFC-224)	422-54-8	UB
225 (HCFC-225)		UB
225 (HCFC-225ca)	422-56-0	5 ppm
225 (HCFC-225cb)	507-55-1	5 ppm
226 (HCFC-226)		UB
231 (HCFC-231)	421-94-3	UB
232 (HCFC-232)	1112-14-7	UB
233 (HCFC-233)	421-99-8	UB
234 (HCFC-234)	127564-83-4	UB
235 (HCFC-235)	679-99-2	UB
241 (HCFC-241)	134190-49-1	UB
242 (HCFC-242)	127564-90-3	UB
243 (HCFC-243)	116890-51-8	UB
244 (HCFC-244)	134190-50-4	UB
251 (HCFC-251)	134190-51-5	UB
252 (HCFC-252)	134190-52-6	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
OZONE DEPLETING		
253 (HCFC-253)	460-35-5	UB
262 (HCFC-262)	420-99-5	UB
271 (HCFC-271)	420-44-0	UB
31 (HCFC-31)	593-70-4	UB
C2F2Cl	76-15-3	UB
C2F2CL4	76-12-0	UB
C2F3Cl3	76-13-1	UB
C2F4Br2		UB
C2F4Cl2	76-14-2	UB
C2F5Cl		UB
C2FCl5	354-56-3	UB
C2H2F2BR2		UB
C2H2F2CL2	1649-08-7	UB
C2H2F3BR		UB
C2H2F3CL	75-88-7	UB
C2H2FBR3		UB
C2H2FCL3	359-28-4	UB
C2H3Cl3		5 ppm
C2H3F2BR		UB
C2H3F2CL	75-68-3	UB
C2H3FBR2		UB
C2H3FCL2	1717-00-6	UB
C2H4Br2		UB
C2H4FBR		UB
C2H4FCl		5 ppm
C2H5Br		5 ppm
C2HF2BR3		UB
C2HF2CL3	354-21-2	UB
C2HF3BR2		UB
C2HF3CL2	306-83-2	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
OZONE DEPLETING		
C2HF4BR		UB
C2HF4CL	2837-89-0	UB
C2HFBR4		UB
C2HFCL4	354-14-3	UB
C3F2CL6	3182-26-1	UB
C3F3CL5	2354-06-5	UB
C3F4CL4	29255-31-0	UB
C3F5CL3	4259-43-2	UB
C3F5Cl3		UB
C3F6CL2	661-97-2	UB
C3F7CL	422-86-6	UB
C3FCL7	422-78-6	UB
C3H2F2BR4		UB
C3H2F2CL4	460-89-9	UB
C3H2F3BR3		UB
C3H2F3CL3	7125-84-0	UB
C3H2F4BR2		UB
C3H2F4CL2	425-94-5	UB
C3H2F5BR		UB
C3H2F5CL	460-92-4	UB
C3H2FBR5		5 ppm
C3H2FCL5	421-94-3	UB
C3H3F2BR3		UB
C3H3F2CL3	460-63-9	UB
C3H3F3BR2		UB
C3H3F3CL2	460-69-5	UB
C3H3F4BR		UB
C3H3F4CL	134190-50-4	UB
C3H3FBR4		UB
C3H3FCL4	666-27-3	UB
C3H4F2BR2		UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
OZONE DEPLETING		
C3H4F2CL2	819-00-1	UB
C3H4F3BR		UB
C3H4F3CL	460-35-5	UB
C3H4FBR3		UB
C3H4FCL3	421-41-0	UB
C3H5F2BR		UB
C3H5F2CL	421-02-3	UB
C3H5FBR2		UB
C3H5FCL2	420-97-3	UB
C3H6FBR		UB
C3H6FCL	430-55-7	UB
C3H7Br		UB
C3HF2BR5		UB
C3HF2CL5	422-49-1	UB
C3HF3BR4		UB
C3HF3CL4	422-52-6	UB
C3HF4BR3		UB
C3HF4CL3	422-54-8	UB
C3HF5BR2		UB
C3HF5CL2	422-56-0, 507-55-1	UB
C3HF6BR		UB
C3HF6CL	431-87-8	UB
C3HFBR6		UB
C3HFCL6	422-26-4	UB
CBr2F2		UB
CF2Cl2		UB
CF2ClBr	353-59-3	UB
CF3Br	75-63-8	UB
CF3Cl	75-72-9	UB
CF3I		UB
CF4Br2	124-73-2	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
OZONE DEPLETING		
CFCl2	75-71-8	UB
CFCl3	75-69-4	UB
CH2BRCL	74-97-5	UB
CH2FBR		UB
CH2FCL	593-70-4	UB
CH3BR	74-83-9	UB
CH3Cl		UB
CHF2BR		UB
CHF2CL	75-45-6	UB
CHFBR2		UB
CHFCL2	75-43-4	UB
Halon-1211		UB
Halon-1301		UB
Halon-2402		UB
Hydrochlorofluorocarbon-261 (HCFC-261)		5 ppm

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
POLYAROMATIC HYDROCARBONS (PAH)		
1-Methylpyrene	2381-21-7	0.5 ppm
Acenaphtene	83-32-9	0.5 ppm
Acenaphthylene	208-96-8	0.5 ppm
Anthracene	120-12-7	0.5 ppm
Benzo[a]anthracene	56-55-3	0.5 ppm
Benzo[a]pyrene	50-32-8	0.5 ppm
Benzo[b]fluoranthene	205-99-2	0.5 ppm
Benzo[e]pyrene	192-97-2	0.5 ppm
Benzo[ghi]perylene	191-24-2	0.5 ppm
Benzo[j]fluoranthene	205-82-3	0.5 ppm
Benzo[k]fluoranthene	207-08-9	0.5 ppm
Chrysene	218-01-9	0.5 ppm
Cyclopenta[c,d]pyrene	2708-37-3	0.5 ppm
Dibenz[a,h]anthracene	53-70-3	0.5 ppm
Dibenzo[a,e]pyrene	192-65-4	0.5 ppm
Dibenzo[a,h]pyrene	189-64-0	0.5 ppm
Dibenzo[a,i]pyrene	189-55-9	0.5 ppm
Dibenzo[a,l]pyrene	191-30-0	0.5 ppm
Fluoranthene	206-44-0	0.5 ppm
Fluorene	86-73-7	0.5 ppm
Halogenated naphthalene	Various	UB
Indeno[1,2,3-cd]pyrene	193-39-5	0.5 ppm
Naphthalene	91-20-3	0.5 ppm
Phenanthrene	85-01-8	0.5 ppm
Pyrene	129-00-0	0.5 ppm
PCB & PCT		
Polychlorinated biphenyls (PCBs)	1336-36-3/53469-21-9	UB
Polychlorinated terphenyls (PCTs)	61788-33-8	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
PERFLUORINATED COMPOUNDS		
1H, 1H, 2H, 2H-Perfluor-1-decanol	678-39-7	UB
1H, 1H, 2H, 2H-Perfluor-1-dodecanol	865-86-1	UB
1H, 1H, 2H, 2H-Perfluor-1-hexanol	2043-47-2	UB
1H, 1H, 2H, 2H-Perfluor-1-octanol	647-42-7	UB
1H, 1H, 2H, 2H-Perfluoroctane sulfonic acid and salts	27619-97-2	UB
1H, 1H, 2H, 2H-Perfluoroctyl acrylate	17527-29-6	UB
1H, 1H, 2H, 2H-Perfluorodecyl acrylate	27905-45-9	UB
1H, 1H, 2H, 2H-Perfluorododecyl acrylate	17741-60-5	UB
2H, 2H, 3H, 3H-Perfluoroundecanoic acid and salts	34598-33-9	UB
7H-Perfluoro heptanoic acid and salts	1546-95-8	UB
Henicosafluordecane sulfonic acid and salts	335-77-3	UB
Henicosafluoroundecanoic acid	2058-94-8	UB
Heptacosafluorotetradecanoic acid	376-06-7	UB
N-Ethyl perfluorooctane sulfonamide	4151-50-2	UB
N-Ethyl perfluorooctane sulfonamide ethanol	1691-99-2	UB
N-Methyl perfluorooctane sulfonamide	31506-32-8	UB
N-Methyl perfluorooctane sulfonamide ethanol	24448-09-7	UB
Pentacosafluorotridecanoic acid	72629-94-8	UB
Perfluor(3,7-dimethyloctanoic acid) and salts	172155-07-6	UB
Perfluorobutane sulfonic acid and salts	375-73-5, 59933-66-3	UB
Perfluorobutanoic acid and salts	375-22-4	UB
Perfluorodecanoic acid and salts	335-76-2/3830-45-3/3108-42-7	UB
Perfluoroheptane sulfonic acid and salts	375-92-8	UB
Perfluoroheptanoic acid and salts	375-85-9	UB
Perfluorohexance sulfonic acid and salts	355-46-4	UB
Perfluorohexanoic acid and salts	307-24-4	UB
Perfluorononanoic acid (PFNA)	375-95-1; 21049-39-8; 4149-60-4	0.05
Perfluorooctane sulfonamide	754-91-6	UB
Perfluorooctane sulfonfluoride	307-35-7	UB
Perfluorooctane sulphonate (PFOS)	2795-39-3, 1763-23-1, 56773-42-3	UB
Perfluorooctanoic acid (PFOA)	68141-02-6, 335-67-1, 3285-26-1	UB
Perfluoropentanoic acid and salts	2706-90-3	UB
Tricosafluorododecanoic acid	307-55-1	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
PESTICIDES		
2-(2,4,5-trichlorophenoxy) propionic acid (2,4,5-TP), its salts, and 2-(2,4,5-trichlorophenoxy) propionyl	93-72-1	UB
2,4,5-T	93-76-5	UB
2,4-D	94-75-7	UB
4,6-Dichloro-7-(2,4,5-trichlorophenoxy)-2-trifluoromethylbenzimidazole	63405-99-2	0.5
Acetamiprid	135410-20-7, 160430-64-8	UB
Aldicarb	116-06-3	UB
Aldrine	309-00-2	UB
Azinophosethyl	2642-71-9	UB
Azinophosmethyl	86-50-0	UB
Bromophosethyl	4824-78-6	UB
Captafol	2425-06-1	UB
Carbaryl	63-25-2	UB
Chlobenzilate	510-15-6	UB
Chlordane	57-74-9	UB
Chlordimeform	19750-95-9, 6164-98-3	UB
Chlorfenvinphos	470-90-6	UB
Chlorthalonil	1897-45-6	0.5 ppm
Clothianidin	210880-92-5	UB
Coumaphos	56-72-4	UB
Cyfluthrin	68359-37-5	UB
Cyhalothrin	91465-08-6	UB
Cypermethrin	52315-07-8	UB
DDT	50-29-3	UB
DEF	78-48-8	UB
Deltamethrin	52918-63-5	UB
Diazinon	333-41-5	UB
Dichlofluanide	1085-98-9	0.5 ppm

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
PESTICIDES		
Dichloroprop	120-36-5	UB
Dicofol	115-32-2	UB
Dicrotophos	141-66-2	UB
Dieldrine	60-57-1	UB
Dimethoate	60-51-5	UB
Dinoseb and salts	88-85-7	UB
Dinotefuran	165252-70-0	UB
Endosulfan	959-98-8, 33213-65-9,115-29-7	UB
Endrine	72-20-8	UB
Esfenvalerate	66230-04-4	UB
Ethylene dibromide (EDB)	106-93-4	UB
Fenvalerate	51630-58-1	UB
Heptachlor	76-44-8	UB
Heptachlororepoxide	1024-57-3, 28044-83-9	UB
Hexachlorocyclohexane	319-84-6, 319-85-7, 19-86-8, 608-73-1	UB
Imidacloprid	105827-78-9, 138261-41-3	UB
Isodrine	465-73-6	UB
Kelevane	4234-79-1	UB
Kepone	143-50-0	UB
Lindane	58-89-9	UB
Malathion	121-75-5	UB
MCPA	94-74-6	UB
MCPB	94-81-5	UB
Mecoprop	93-65-2/7085-19-0	UB
Metamidophos	10265-92-6	UB
Methoxychlor	72-43-5	UB
Mirex	2385-85-5	UB
Monocrotophos	6923-22-4	UB
Monomethyl-dibromo-diphenyl methane	99688-47-8	UB
Monomethyl-dichloro-diphenyl methane	81161-70-8	UB
Monomethyl-tetrachloro-diphenyl methane	76253-60-6	UB
Nitenpyram	150824-47-8, 120738-89-8	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
PESTICIDES		
o,p, p-Dichlorodiphenyl-trichloroethane	789-02-6	UB
o,p-Dichlorodiphenyl-dichloroethane (o,p-DDD)	53-19-0	UB
o,p-Dichlorodiphenyl-dichloroethylene (o,p-DDE)	3424-82-6	UB
p,p-Dichlorodiphenyl-dichloroethane (p,p-DDD)	72-54-8	UB
p,p-Dichlorodiphenyl-dichloroethylene (p,p-DDE)	72-55-9	UB
Parathion	56-38-2	UB
Parathion-methyl	298-00-0	UB
Pentachloroanisole	1825-21-4	0.5 ppm
Permethrin	52645-53-1	0.5 ppm
Perthane	72-56-0	UB
Phosdrin/mevinphos	7786-34-7/26718-65-0	UB
Phosphamidone	13171-21-6	UB
Profenophos	41198-08-7	UB
Propethamphos	31218-83-4	UB
Quinalphos	13593-03-8	UB
Quintozene	82-68-8	UB
Strobane	8001-50-1	UB
Telodrine	297-78-9	UB
Thiacloprid	111988-49-9	UB
Thiamethoxam	153719-23-4	UB
Timiperone (DTTB)	57648-21-2	UB
Tolylfluanide	731-27-1	0.5 ppm
Toxaphene	8001-35-2	UB
Trifluralin	1582-09-8	UB

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
PHTHALATES		
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linearalkyl esters (DHNUP)	68515-42-4	250 ppm
1,2-Benzenedicarboxylic acid,di-C6-11-branched alkyl esters,C7 rich (DIHP)	71888-89-6	250 ppm
1,2-Benzensedicarboxylic acid, dehexylester, branched and linear	68515-50-4	250 ppm
1,2-Benzensedicarboxylic acid, depentylester, branched and linear	84777-06-0	250 ppm
1,2-Benzensedicarboxylic acid, di-C6-C10 alkyl esters; 1,2-benezenedicarboxylic acid, mixed decyl, hexyl and oxtyl diesters	68515-51-5, 68648-93-1	250 ppm
Bis (2-methoxyethyl) phthalate (DMEP)	117-82-8	250 ppm
Butyl benzyl phthalate (BBP)	85-68-7	UB
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	UB
Di-cyclohexyl phthalate (DCHP)	84-61-7	250 ppm
Diethyl phthalate (DEP)	84-66-2	5 ppm
Di-isobutyl phthalate (DiBP)	84-69-5	250 ppm
Di-iso-decyl phthalate (DIDP)	26761-40-0, 68515-49-1	UB
Di-iso-hexylphthalate	71850-09-4	250 ppm
Di-isononyl phthalate (DINP)	28553-12-0/ 68515-48-0	UB
Di-iso-octyl phthalate (DIOP)	27554-26-3	250 ppm
Di-isoo-pentyl phthalates (DIPP)	605-50-5	250 ppm
Dimethyl phthalate (DMP)	131-11-3	500 ppm
Di-n-butyl phthalate (DBP)	84-74-2	UB
Di-n-hexyl phthalate (DnHP)	84-75-3	5 ppm
Di-n-octyl phthalate (DnOP)	117-84-0	UB
Dinonyl phthalate (DNP)	84-76-4	250 ppm
Di-n-propyl phthalate (DPRP)	131-16-8	250 ppm
Dipentyl phthalate (DnPP or DPENP)	131-18-0	250 ppm
N-pentyl-isopentylphthalate (NPIPP)	776297-69-9	250 ppm

CHEMICAL NAME	CAS NUMBER	LOWEST LIMIT
POLYVINYL CHLORIDE (PVC)		
Polyvinyl chloride	9002-86-2	UB
Vinyl chloride monomer	75-01-4	1 ppm
MISCELLANEOUS		
Lead hydrogen arsenate	7784-40-9	0.5 ppm
2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV 350)	36437-37-3	0.1 ppm
2-(2H-Benzotriazol-2-yl)-4,6-di-(tert-pentylphenol (UV 328)	25973-55-1	0.1 ppm
2,4-di-tert-butyl-6-(5- chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	0.1 ppm
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.1 ppm
1,1-Dichloroethylene	75-35-4	UB
2-Phenyl-2-propanol	617-94-7	50 ppm
Acetophenone	98-86-2	50 ppm
Benzene	71-43-2	UB
Carbon disulfide	75-15-0	10 ppm
Carbon tetrachloride	56-23-5	UB
Cyclohexanone	108-94-1	100 ppm
Dimethyl formamide	68-12-2	0.1 ppm
Ethylbenzene	100-41-4	15 ppm
Formamide	75-12-7	0.02 ppm
m-Cresol	108-39-4	UB
Methyl ethyl ketone	78-93-3	1 ppm
N-Methylpyrrolidone	872-50-4	UB
o-Cresol	95-48-7	UB
p-Cresol	106-44-5	UB
Quinoline	91-22-5	Under Observation
Styrene	100-42-5	100 ppm
Toluene	108-88-3	UB
Xylene	1330-20-7, 95-47-6, 108-38-3, 106-42-3,	500 ppm
4-tert-Octylphenol; 1,1,2,2,-tetramethyl-4-butylphenol	140-66-9	100 ppm
N,N-Dimethylacetamide	127-19-5	0.1 ppm

4.0 CONFORMITY STATEMENTS

4.1 Proposition 65

4.1.1 The California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Health and Safety Code), better known as Proposition 65, requires the governor of California to publish a list of chemicals known to the state to cause cancer or reproductive toxicity. The California Environmental Protection Agency (Cal/EPA), which administers Proposition 65, has been delegated the authority to develop and revise this list. Proposition 65 establishes two prohibitions regarding use of listed chemicals. First, no person in the course of doing business may knowingly discharge or release a significant amount of a listed chemical into drinking water or into or onto land where it will pass into a source of drinking water. Second, no person in the course of doing business may knowingly expose any individual to a significant amount of a listed chemical without first providing a clear and reasonable warning to such individual. It should be noted that simply because a component is subject to Proposition 65 does not mean that a warning for the finished product is required. Proposition 65 warning requirements are dependent on the anticipated level of exposure to components subject to Proposition 65 resulting from foreseeable uses of a product. The warning requirements will only apply if the foreseeable and intended uses of a product containing these materials are likely to result in exposures above what are referred to as “significant risk” or “observable effect” levels. A determination of “significant risk” or “observable effect” can only be made with full knowledge of the end uses and applications of the products. Avient does not control or have complete knowledge of the end uses to which you or your customers put our materials. Therefore, the decision to include or not include a Proposition 65 notice must ultimately rest with your company and your customers. Please note Titanium dioxide and Carbon black are listed on the Proposition 65 list as “airborne, unbound particles of respirable dust”. Avient considers these substances bound in the polymer matrix of the finished good and not environmentally available. Additional information can be found by visiting: http://www.oehha.org/prop65 html. Please refer to our Safety Data Sheets for Proposition 65 information relating to specific Avient products.

4.2 REACH Substances of Very High Concern (SVHC)

4.2.1 Based on information from our raw material suppliers as provided to Avient and chemical review of our formulations, the above Avient products are not expected to contain any Substances of Very High Concern at levels above the applicable threshold (0.1%).

4.3 ZDHC

43.1 Avient specialty inks supports the Zero Discharge of Hazardous Materials initiative. Requirements of the 2015 ZDHC Manufacturing Restricted Substance List version 1.1 have been incorporated into this RSL.

4.4 Food Contact and Medical Device Applications

4.5.1 The above Avient products are not intended for food contact or medical applications.

5.0 EXCEPTIONS

5.1 Metallic Gold products may contain extractable Copper at levels in excess of 25 ppm. Zodiac Libra silicone inks may contain Ethyl Benzene and Xylene in affected products.

5.2 You must make your own determination of suitability for your intended application use and environmental acceptability.

5.3 Free Formaldehyde can be present in all product lines containing fluorescent pigments or Aquarius Activator ZF. When mixing your own colors, follow the pigment loading guidelines set forth in our Product Information Bulletins to ensure Formaldehyde levels remain below 16 ppm. You must make your own determination of suitability for your intended use and environmental acceptability, the safety and health of your employees, and purchasers of your product.

6.0 LIMITATION OF LIABILITY AND DISCLAIMERS

6.1 You are responsible for determining the suitability of product(s) under actual conditions of processing and end-use in accordance with the applicable regulatory and/or brand restrictions. The above guidelines apply to the respective Zodiac™ products only, and do not take into account other components of the final product; therefore, Avient is not in a position to warrant that the final product will meet FDA, EPA, and/or any other regulatory requirements.

Nothing in this Conformity Statement shall be construed as a warranty of any kind with respect to the Zodiac™ products, express or implied, respecting merchantability or fitness for a particular purpose.

As a commercial accommodation, if any of the above products do not meet the guidelines above, Avient may replace the product free of charge, except Avient will not replace product free of charge if: (1) the manufacture date is more than 1-year-old, or (2) product is not stored and/or processed according to the relevant PIB. Product replacement is your sole and exclusive remedy. **Avient disclaims all incidental, consequential, exemplary or punitive, special damages, including losses from unsold or discounted inventory or attorneys' fees.**

7.0 LINKS TO TEST CERTIFICATES & APPROVED LABORATORIES

7.1 Zodiac Aquarius (zodiacinks.com/aquarius)
Zodiac Libra (zodiacinks.com/libra)
Zodiac Taurus (zodiacinks.com/taurus)

7.2 Approved Laboratories

7.2.1 Bureau Veritas (Schwerin, Germany) (link: https://group.bureauveritas.com/)

8.0 LINKS TO ADDITIONAL INFORMATION

8.1 Restricted Substance List

8.2 Product Information Bulletins

8.3 Technical Data Sheets

8.4 Avient.com

8.5 Avient Policies and Governance (link: http://www.avient.com/company/policies-and-governance)

8.6 No Surprises Pledge (link: http://www.avient.com/company/sustainability/no-surprises-pledge)

8.7 Avient's Sustainability Promise (Link: http://www.avient.com/company/sustainability)

8.8 Avient's Global ISO Certificate Library
(link: http://www.avient.com/company/policies-and-governance/global-iso-certificate-library)

8.9 REACH SVHC (link: http://echa.europa.eu/candidate-list-table)

8.10 Technical Services +1.844.4AVIENT

www.zodiacinks.com

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