



Product Material Declaration Datasheet

Issue Date: 10th May, 2019

Products: Indy R500 SIP

Impinj Part Number: IPJ-RS500-GX

Impinj Part Number: IPJ-RS500-EU

Summary:

RoHS

Indy packaged products, supplied by Impinj, Inc., are RoHS compliant based upon the analysis results. Since all part numbers within these families meet the Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS2), and 2015/863 (RoHS 3), special part numbers are not required.

REACH

The products listed do not, to our current knowledge, contain substances above the legal threshold which are included in Annex XVII to REACH and includes all the restrictions adopted in the framework of REACH and the previous legislation, Directive 76/769/EEC as well as the one hundred and ninety-seven (197) substances in the Candidate List of Substances of Very High Concern (SVHC) as published by European Chemicals Agency (ECHA) on and before 15th January 2019 regarding Regulation (EC) No 1907/2006. Our company's intention is that all products sold to our EU and EEA customers by our legal entities in Europe are compliant with REACH regulatory requirements.

RoHS Detail: Table 1 identifies the environmentally banned substances related to the Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS2), and 2015/863 (RoHS 3). Impinj products do not intentionally contain these substances beyond trace element amounts.

TABLE 1

Substances / Compounds	Weight (mg)	PPM	Analysis
Hexavalent Chromium and Compounds	0	<1000	MSDS/Supplier
Lead and Lead Compounds	0	<1000	MSDS/Supplier
Mercury and Mercury Compounds	0	<1000	MSDS/Supplier
Polybrominated Biphenyls (PBB)	0	<1000	MSDS/Supplier
Polybrominated Diphenylethers (PBDE)	0	<1000	MSDS/Supplier
Bis(2-ethylhexyl) phthalate (DEHP)	0	<1000	MSDS/Supplier
Butyl benzyl phthalate (BBP)	0	<1000	MSDS/Supplier
Dibutyl phthalate (DBP)	0	<1000	MSDS/Supplier
Diisobutyl phthalate (DIBP)	0	<1000	MSDS/Supplier
Cadmium and Cadmium Compounds	0	<100	MSDS/Supplier

REACH Detail: Our Company's intention is that all products sold to our EU and EEA customers by Our Company legal entities in Europe (2) are compliant with REACH regulatory requirements.

REACH requires registration for individual substances(1) (on their own or in preparations(3)) greater than one metric ton per year produced or imported.

Each importer is responsible for his own compliance with REACH; and Our Company products bought from a supplier outside of EU/EEA may not necessarily be compliant with REACH requirements.

Most of the products we sell do not, to our current knowledge, contain substances above the legal threshold (4) that are on the Candidate List of Substances of Very High Concern (SVHC substances) as published on the ECHA website on 15th January 2019. For those few products that contain an SVHC, we notify our direct customers and distributors to inform them of the presence of an SVHC and our plans to address the issue.

To fully understand the obligations that you as our customer have under REACH, we recommend that you consult the REACH website at http://echa.europa.eu/home_en.asp

(1) Substance: a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to



preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition (REACH, Article 3.1)

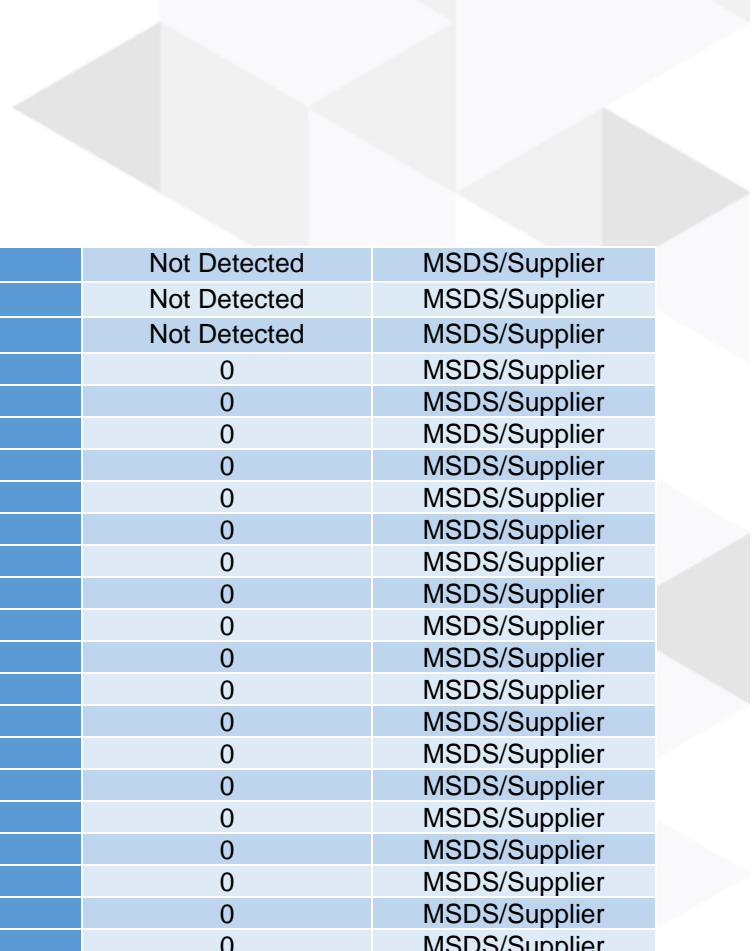
- (2) This includes the Our Company legal entities in the EU/EEA, as well as Our Company de Nemours International Sàrl and Our Company International Operations Sàrl
- (3) Preparation: means a mixture or solution composed of two or more substances (REACH, Article 3.2)
- (4) Inclusion of a substance on the Candidate List may impose immediate legal obligations upon companies whose chemical products or articles contain more than 0.1 wt% of the substances. You can find more information about these obligations on the ECHA website:
http://echa.europa.eu/chem_data/authorisation_process/candidate_list_obligations_en.asp

Additional Substances not addressed by RoHS or REACH Directives:

Table 2 identifies additional substances currently NOT incorporated into the Indy packaged product by design. This list includes items that are not intentionally added, but may not list impurities or trace elements within individual components of any substance.

TABLE 2

Additional Substances/Compounds	PPM	Analysis
Other Specific Phthalates (DINP, DIDP, DNOP, DNHP)	Not Detected	MSDS/Supplier
Halogen	Not Detected	MSDS/Supplier
Halogen-Fluorine (F)	Not Detected	MSDS/Supplier
Halogen-Bromine (Br)	Not Detected	MSDS/Supplier
Halogen-Iodine (I)	Not Detected	MSDS/Supplier
Monobromobiphenyl	Not Detected	MSDS/Supplier
Dibromobiphenyl	Not Detected	MSDS/Supplier
Tribromobiphenyl	Not Detected	MSDS/Supplier
Tetrabromobiphenyl	Not Detected	MSDS/Supplier
Pentabromobiphenyl	Not Detected	MSDS/Supplier
Hexabromobiphenyl	Not Detected	MSDS/Supplier
Heptabromobiphenyl	Not Detected	MSDS/Supplier
Octabromobiphenyl	Not Detected	MSDS/Supplier
Nonabromobiphenyl	Not Detected	MSDS/Supplier
Decabromobiphenyl	Not Detected	MSDS/Supplier
Monobromodiphenyl ether	Not Detected	MSDS/Supplier
Dibromodiphenyl ether	Not Detected	MSDS/Supplier
Tribromodiphenyl ether	Not Detected	MSDS/Supplier
Tetrabromodiphenyl ether	Not Detected	MSDS/Supplier
Pentabromodiphenyl ether	Not Detected	MSDS/Supplier
Hexabromodiphenyl ether	Not Detected	MSDS/Supplier



Heptabromodiphenyl ether	Not Detected	MSDS/Supplier
Octabromodiphenyl ether	Not Detected	MSDS/Supplier
Nonabromodiphenyl ether	Not Detected	MSDS/Supplier
Perfluorooctane Sulfonates (PFOS)	0	MSDS/Supplier
Ozone Depleting Substances	0	MSDS/Supplier
Polychlorinated Biphenyls (PCB)	0	MSDS/Supplier
Polychlorinated Napthalenes (PCN)	0	MSDS/Supplier
Formaldehyde	0	MSDS/Supplier
Shortchain Chlorinated Paraffins (SCCP)	0	MSDS/Supplier
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	MSDS/Supplier
Tributyl Tin Oxide (TBTO)	0	MSDS/Supplier
Decabromodiphenylether (DBDE)	0	MSDS/Supplier
Polychlorinated terphenyls (PCT)	0	MSDS/Supplier
Chlorinated Organic Compounds	0	MSDS/Supplier
Brominated Organic Compounds	0	MSDS/Supplier
Asbestos	0	MSDS/Supplier
Azo Compounds	0	MSDS/Supplier
Formaldehyde	0	MSDS/Supplier
Polyvinyl Chloride (PVC) and PVC Blends	0	MSDS/Supplier
Beryllium Oxide	0	MSDS/Supplier
Beryllium Copper	0	MSDS/Supplier
Hydrofluorocarbon (HFC)	0	MSDS/Supplier
Perfluorocarbon (PFC)	0	MSDS/Supplier
Specific Benzotriazole	0	MSDS/Supplier
Antimony (Sb)	0	MSDS/Supplier
Fluorinated Compounds	<1.0	MSDS/Supplier
Halogen-Chlorine (Cl)	<450	MSDS/Supplier
Flame Retardent Substances	Not Detected	MSDS/Supplier



Table 3 identifies substances currently incorporated into the Indy packaged product. This list includes all items that are intentionally added, and may not list impurities or trace elements within individual components of any substance.

TABLE 3

Incorporated Substances/Compounds	PPM	Analysis
Wafer		
Zinc	8	MSDS/Supplier
Nickel	11	MSDS/Supplier
Cobalt	16	MSDS/Supplier
Copper	20	MSDS/Supplier
Phosphorus	24	MSDS/Supplier
Tungsten	286	MSDS/Supplier
Titanium	331	MSDS/Supplier
Aluminum	3590	MSDS/Supplier
Silicon	995300	MSDS/Supplier
R500/R2000 Lead Frame		
Phosphorous	150 – 1500	MSDS/Supplier
Zinc	500 – 2000	MSDS/Supplier
Silver	5000 – 15000	MSDS/Supplier
Iron	21000 – 26000	MSDS/Supplier
Copper	Balance	MSDS/Supplier
R1000 Lead Frame		
Phosphorous	300	MSDS/Supplier
Zinc	1500	MSDS/Supplier
Iron	23000	MSDS/Supplier
Copper	Balance	MSDS/Supplier
Lead Frame Plating		
Tin	1000000	MSDS/Supplier
Mold Compound		
Carbon (Black)	1000 – 5000	MSDS/Supplier
Epoxy Resin	10000 – 50000	MSDS/Supplier
Phenol Resin	10000 – 50000	MSDS/Supplier
Silica Fused	850000 – 950000	MSDS/Supplier
Die Attach		
Organic Peroxide	1000 – 10000	MSDS/Supplier



Dicyandiamide	1000 – 10000	MSDS/Supplier
Epoxy Resin A	10000 – 50000	MSDS/Supplier
Diluent A	10000 – 50000	MSDS/Supplier
Hardener	10000 – 50000	MSDS/Supplier
Epoxy Resin B	50000 – 100000	MSDS/Supplier
Diluent B	50000 – 100000	MSDS/Supplier
Silver Powder	700000 - 900000	MSDS/Supplier
Bond Wire		
Au	≥990000	MSDS/Supplier

Conclusion: Impinj will continue to follow all legal requirements regarding environmental legislation. Impinj will also support customers “green” programs as a leader in RFID products.

John Quist
Sr. Vice President of Quality and Operations
Impinj, Inc.