

אילטם - איגוד משתמשים לפיתוח מתקדם
של מערכות מורכבות ומערכים (ע"ר)



Sustainability and news in green directives

EU REACH Overview

*July 19, 2017
Herzlia, Israel*



Randy Flinders
Sr. Manager of Support
GreenSoft Technology, Inc.
randy.flinders@greensofttech.com

Agenda

- ❑ **GreenSoft** – who we are and what we do
- ❑ REACH – Areas of concern for article producers
- ❑ The SVHC Candidate List
- ❑ REACH Annex XIV
- ❑ REACH Annex XVII
- ❑ Producer Responsibilities
- ❑ Supply Chain Data Exchange
- ❑ Q&A



GreenSoft Technology

Who we are and what we do

GreenSoft Overview

- ❖ Established in 2002, GreenSoft Technology is a leader in the field of environmental compliance management
- ❖ Two business branches:
 - ❖ **Data Management Services:** GreenSoft conducts data collection, validation and conversion to any desired format
 - ❖ **Software tool:** For management and reporting of various environmental regulations, such as RoHS-2 & REACH SVHC & Conflict Minerals, from desktop to LAN-based to Internet-based to cloud-based
- ❖ Extensive experience in collecting, formatting and analyzing electronics and compliance data
- ❖ One-Stop Total Solution Provider:
 - ❖ From data collection to product-level compliance reporting
 - ❖ Data, software, and reporting solutions for environmental compliance management

More About **GreenSoft**

- ❖ Headquartered in Pasadena, California, USA with offices in Europe, Israel, Japan, Taiwan and China – 120 employees
- ❖ Data factory in Shijiazhuang, Hebei, China. 180 miles south of Beijing
- ❖ ISO 9001:2015 certified



Some of our Customers

Communications: **NETGEAR** **Calix** **AudioCodes** **Omnicell** **Siklu** **CORNING MobileAccess** **Newtec**

Mellanox TECHNOLOGIES **f5** **radware** **Telit** **Linx** **LifeSize** **Allot** **napatech** **EXFO**

Trimble **CASSIDIAN** **JDSU** **PacketLight** **Silicom Ltd.** **TELULAR** **Actelis Networks**

Power Modules: **TDK-Lambda Corporation** **APC** **XP Power** **ERG** **VICOR** **enLOGIC**

Video/Security System: **NICE** **VERINT** **DALSA** **WATERFALL** **BARCO** **MOBILEYE**

MAGAL S³ **IMPERX** **Visionic** **POINT GREY** **AXIS** **ColorChip**

Semiconductors: **TEXAS INSTRUMENTS** **GLOBALFOUNDRIES** **QORVO** **swissbit** **CAVIUM** **NETRONOME**

Test/Semiconductor Eqp: **TEL** **TOKYO ELECTRON** **Kulicke & Soffa** **Veeco** **VERIS INDUSTRIES** **mks** **ColorChip**

Aerospace: **THALES** **UTC Aerospace Systems** **GENERAL DYNAMICS SATCOM Technologies** **Elbit Systems** **AIRBUS**

Medical/Life Science: **Abbott** **AB SCIEX** **BD** **FRACTYL** **Palomar** **STILLE** **hothead technologies** **GEO**

io **Iba** **SOLTAMEDICAL** **natus** **AB applied biosystems** **hansen** **TECAN**

VERATHON **ReSound** **ZONARE** **Syneron** **CYNOSURE** **SONESTA** **THORATEC CORPORATION**

System/Sub-System: **3M** **Jabra** **iRobot** **SMART** **METTLER TOLEDO** **emcore** **Invetech**

GE **Honeywell** **KMC CONTROLS** **Server Technology** **AVNET** **SpectraSensors** **VIKING**

Voccollect **ABB** **VAISALA** **Logitech** **creation TECHNOLOGIES** **Ultratech** **PCI**

Service Provider **GE Oil & Gas** **TE TECHNOLOGY, INC.** **congatec** **KRAMER** **ICC NEXERGY** **KOHLER** **ARBITRON**

Some of our Customers - Asia

Communications:



Power Modules:



Video Equipment:



Semiconductors:



System/Sub-System:



Much more than just REACH.....

- ❖ GreenSoft has many years experience in assisting customers with REACH Compliance, but it doesn't stop there. GreenSoft can assist with any environmental compliance requirements.
- ❖ Just some of the requirements we help customers address:

1. EU Directive Battery:
2. California Proposition 65:
3. California RoHS
4. Canadian REACH:
 - o CanLII-Prohibition of Certain Toxic Substances Regulations
 - o CanLII-Report of Certain Toxic Substances Regulations
5. China RoHS
6. Conflict Minerals:
 - o Conflict Minerals - Examine Only (4 metals)
7. EU Directive Asbestos - 2009/148/EC - Quick Scan
8. EU Directive Radioactive Substances - 96/29/EURATOM - Quick Scan
9. EU Regulation - 1005/2009 Ozone Depletion Substances - Quick Scan
10. EU RoHS
11. Halogen Free
12. Norwegian POHS
13. Packaging and Packaging Waste
14. EU Directive PFOS:
15. Rare Earth Substances - Examine Only
16. REACH - Azocolourants
17. REACH - CMR:
18. REACH - Carcinogens-1:
19. REACH - Carcinogens -2:
20. REACH - Mutagens:
21. REACH - Toxic for Reproduction:
22. REACH Annex-14
23. REACH Annex-17 Scan
24. REACH SVHC: from SVHC (15) to most recent SVHC (173)
25. Stockholm Convention POPs - 2004-05-17

The GreenSoft Advantage

- ❖ GreenSoft offers a customized complete solution for companies of all sizes, markets, and needs.
 - ❖ **Data Collection:** Data collection, validation and management services to manage your entire product and materials base.
 - ❖ **Software:** Various versions to meet your needs:
 - ❖ Hosted GreenData Manager – Hosted on the cloud, no internal IT involvement.
 - ❖ On-Premise GreenData Manager – Install your parts database on your servers and have complete control over data security and access.
 - ❖ Desktop Edition – Inexpensive single-seat option
 - ❖ Workgroup Edition – Collaborative environment for larger compliance groups
 - ❖ Browser Edition – Global access to compliance and product data for all global business units
 - ❖ **Turnkey Product Compliance:**
 - ❖ Just provide us with your BOM(s) or a parts list and specify the compliance requirements (regulations or rules).
 - ❖ GreenSoft delivers compliance reports per your requirements with due diligence documents collected from suppliers.

The **GreenSoft** Advantage

- ❖ GreenSoft Component Database
 - ❖ **64 M part numbers** from **27,417 manufacturers** worldwide – Mar 2017
 - ❖ Part Numbers Database:
 - ❖ 6.6 M parts with Full Material Declaration (FMD) Data
 - ❖ REACH SVHC status and Certificates:
 - ❖ **SVHC(161) – 17M**
 - ❖ **SVHC(163) – 1.19M**
 - ❖ **SVHC(168) – 997K**
 - ❖ **SVHC(169) – 6.92M**
 - ❖ **SVHC(173) – 8.05M**



REACH

Areas of Concern for Article Producers

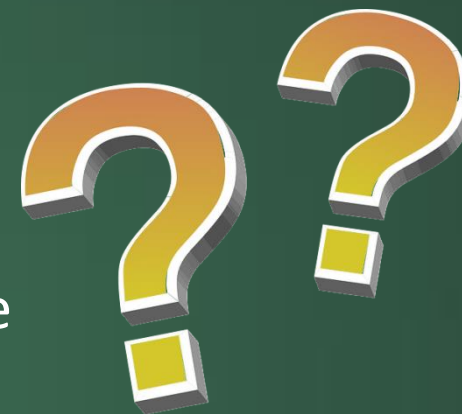
REACH – Areas of concern for article producers

- ❖ REACH is the Restriction and Authorization of Chemicals legislation in the EU.
 - ❖ Chemical restrictions, authorization requirements, and supply chain communication requirements for all substances and mixtures imported into or manufactured in the EU.
 - ❖ INCLUDES substances present in articles (products).
 - ❖ An article that expels a mixture or substance (toner cartridge, ink pen) would need be addressed as both an article and a substance / mixture.



REACH – Areas of concern for article producers

- ❖ Important things to consider when applying REACH requirements to articles such as EEE:
 - ❖ Does the article expel any mixtures or substances?
 - ❖ Is the article manufactured in the EU or imported into the EU?
 - ❖ A clear understanding of the definition of an article is required
 - ❖ Which Annex XVII restriction entries apply to your type of product?
 - ❖ Regular data updates – every 6 months
- ❖ Customer requirements
 - ❖ The type of data required by your customers will define what type of data is required from your suppliers



REACH

The **Substances of Very High Concern (SVHC)** Candidate List

REACH – The SVHC Candidate List

- ❖ Producers of articles must evaluate their product for SVHCs present in the article or sub-articles in amounts greater than 1000ppm.
- ❖ SVHCs present over the stated threshold must be communicated through the supply chain –
 - ❖ professional customers only. (Not end users.)
 - ❖ At a minimum the name of the SVHC present must be provided.
 - ❖ If the amount of the substance imported, used, or manufactured in the EU is above 1 metric tonne per year, some official notification requirements may also be triggered.
- ❖ There are currently 173 substances on the list. More substances are added approximately every 6 months. (So any REACH certifications from your suppliers have very short lifespans.)



REACH – The SVHC Candidate List

- ❖ Article Definition – what is an article and how do we calculate substance concentrations?:
 - ❖ An article is defined in REACH as “an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition.”
 - ❖ The original interpretation of this definition was that an article is an end product.
 - ❖ A recent EU Court of Justice decision re-interpreted the definition as “one an article, always an article.” The decision was confirmed by a newly released Guidance for Articles publication, released by ECHA June 2017.
 - ❖ This means any past REACH compliance validations performed at the product level are no longer viable.
 - ❖ Manufacturers need to understand the impact of this change and review their process to ensure they are adequately collection data at the correct subpart level.



REACH

Annex XIV – The Authorization List

REACH – Annex XIV

- ❖ Annex XIV provides some requirements on certain SVHCs which have restrictions on use applications
 - ❖ Annex XIV, while not applicable to articles imported into the EU, is applicable to manufacturers of articles within the EU.
 - ❖ The substance must be authorized for its intended use in the article before being manufactured within the EU.
 - ❖ Many companies with factories or EMS providers located in the EU are starting to require Annex XIV validation of components from suppliers.
 - ❖ Producers of Substances and Mixtures are in scope even if imported from outside the EU.

REACH

Annex XVII – The Restricted/Prohibited Substance List

REACH – Annex XVII

- ❖ Annex XVII defines specific substances which are either prohibited from use completely or have restrictions when used in certain pre-defined applications.
- ❖ The REACH Annex XVII substance list maintained by the **European Chemicals Agency (ECHA)** is not all inclusive as the regulation refers to the several classes of substances called out in EU regulation (EC) No 1272/2008 (CLP directive) for some restricted substances.



REACH – Annex XVII

- ❖ The Annex includes hundreds of substances as defined by 67 (current) entries to the Annex. Each entry has specific information on scope and applicability.

- ❖ **Example 1:** Entry 66 restricts BPA, but only in Thermal paper made available after Jan 2, 2020. Producers of electronic devices can probably ignore this restriction.
- ❖ **Example 2:** Entry 23 restricts Cadmium in articles containing certain polymers, and painted articles. This requirement may apply to certain electronic or electrical articles, depending on their construction.
- ❖ **Example 3:** Entry 29 restricts substances which appear in Regulation (EC) No 1272/2008 (CLP directive) classified as germ cell mutagen category 1A or 1B or mutagen category 1 or 2. If an article (such as a printer ink cartridge) expels any substance that meets this description, it may be non-compliant.

- ❖ Many of the entries do not apply to articles at all. So performing a compliance analysis against the entire Annex XVII is not only very difficult, it is also largely useless without hours of follow up research.

Producer Responsibilities

Producer Responsibilities

Condition	Communication Requirements Professional Users	Communication Requirements Consumers (Upon Request)	Notificaiton Requirements	Authorization Requirements	Registration Requirements	Restrictions on use
SVHC not present in Article or sub-article over 1000ppm	None	None	None	None	None	None
SVHC Present in Article or sub-article over 1000ppm	<Article 33(1)> The name of the substance must be provided as well as any information available to ensure safe use of the article.	<Article 33(2)> Must provide the name of the substance and if available, safety information about the SVHC and the article.	None	None	None	None
SVHC Present in Article or Sub-article over 1000ppm and as a result over 1 tonne annually of the substance is imported or produced for sale in the EU.			<Article 7(2)> Must notify ECHA of the SVHCs present in the article	None	None	None
SVHC Present in Article or Sub-article over 1000ppm and as a result over 1 tonne per of the substance is imported or produced for sale in the EU, and the SVHC is intended to be released during normal article use.				None	<Article 7(1)> SVHC must me registered with ECHA for use in the article, if not prev registered.	None
Article contains Annex XIV substance which has not been authorized for the specific use. (Articles manufactured in the EU only)	None	None	None	<Article 56> Substance must be authorized for use before incorporating into an article in the EU.	None	<Article 56> Manufacturers should ensure the substance is authorized for the specific use in the manufacturing process.
Product contains Annex XVII substance which is used in a manner restricted under one or more Annex XVII Entry.	None	None	None	None	None	<Article 67(1)> Substance cannot be used. The Article cannot be imported or produced for sale in the EU.

Supply Chain Data Exchange

How REACH data is communicated through the supply chain

Supply Chain Data Exchange

- ❖ In order to evaluate products for REACH compliance, compliance and material content data must be collected from the supply chain.
- ❖ Companies tend to either use their own proprietary format, or they have adopted one of the industry data exchange standards.
 - ❖ Industry data exchange standards were implemented to allow machine-to-machine data exchange, using XML based data.
 - ❖ Proprietary formats used for data exchange vary in format and file type and are not conducive to machine-to-machine data transfer. (PDF, Excel, Word, etc)

Supply Chain Data Exchange

❖ Industry Data Exchange Standards

❖ **IPC 1752 ver 1.x** is the most well known industry standard for data exchange

- ❖ No longer updated.
- ❖ Reportable substance list based on JIG-101
- ❖ References obsolete RoHS exemptions
- ❖ References obsolete RoHS directive 2002/95/EC
- ❖ PDF form based offers human readable capability, but not usable for large products
- ❖ Surprisingly still requested and accepted by some companies today



Supply Chain Data Exchange

❖ IPC 1752-2 Version 1.1 example:

 ASSOCIATION CONNECTING ELECTRONICS INDUSTRIES®		Material Composition Declaration © Copyright 2005. IPC, Bannockburn, Illinois. All rights reserved under both international and Pan-American copyright conventions.		This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility. Adobe Reader version 7.0.5 is required to complete this declaration.						
1752-2 1.1		IPC Web Site for Information on IPC-1752 Standard http://www.ipc.org/IPC-175x			Form Type * Distribute		Declaration Class * Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Inform			
Supplier Information										
Company Name * *****		Company Unique ID *****		Unique ID Authority Dunn and Bradstreet		Response Date * 2014-02-11		Response Document ID 		
Contact Name * *****		Title - Contact QA Engineer - Staff		Phone - Contact * *****		Email - Contact * *****		Duplicate Contact -> Authorized Representative		
Authorized Representative * *****		Title - Representative QA Engineer - Staff		Phone - Representative * *****		Email - Representative * *****		Supplier Comments or URL for Additional Information 		
Requester Item Number ABC123		Mfr Item Number ABC123		Mfr Item Name DUAL 8G FBR CHNL PCI-EXP		Effective Date 2008-03-26		Version Rev A		
Manufacturing Site ATK		Weight * 6,077.66		UOM mg		Unit Type Each				
Alternate Recommendation 						Alternate Item Comments 				
Manufacturing Process Information										
Terminal Plating / Grid Array Material Tin/Silver/Copper (Sn/Ag/Cu)			Terminal Base Alloy Not Applicable		J-STD-020 MSL Rating 4		Peak Process Body Temperature 250 C		Max Time at Peak Temperature 20 seconds	
Number of Reflow Cycles 3										
Comments 										
Package Type = 564 FPBGA-L13 SAC GREEN / Nickel declared in heat spreader is not external.										

Supply Chain Data Exchange

❖ IPC 1752-2 Version 1.1 example:

Save the fields in this form to a file	Export Data	Import fields from a file into this form	Import Data	Clear all of the fields on this form	Reset Form	Lock the fields on this form to prevent changes	Lock Supplier Fields
RoHS Material Composition Declaration						Declaration Type *	Simplified
RoHS Directive 2002/95/EC	RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium						
Supplier certifies that it gathered the information it provides in this form concerning RoHS restrictive substances using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part, and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part, the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form.							
RoHS Declaration *	1 - Item(s) does not contain RoHS restricted substances per the definition above						Supplier Acceptance * Accepted
Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.							
Declaration Signature							
Instructions: Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.							
Supplier Digital Signature	 Digitally signed by Randall (Randy) Flinders Date: 2017.06.23 12:22:19 -07'00'						

Supply Chain Data Exchange

❖ IPC 1752-2 Version 1.1 example:



Homogeneous Material Composition Declaration for Electronic Products

SubItem Instructions: The presence of any JIG Level A or B substances must be declared. [1] indicate the subpart in which the substance is located, [2] provide a description of the homogeneous material [3], enter the weight of the homogeneous material.

Substance Instructions: [A] select the Level (JIG A, JIG B, Requester or Supplier) [B] select the substance category (JIG or Requester) or enter a value (Supplier). [C] select the substance (JIG) or enter the substance and CAS (Other). [D] select a RoHS exemption, if applicable [E] enter the weight of the substance or the PPM concentration [F] Optionally enter the positive (+) and negative (-) tolerance in percent (Note: percent tolerance values are expected to cover a 3 sigma range of distribution unless otherwise noted).

Line Functions: +I Inserts a New Item /SubItem +M Inserts a new Material +C Inserts a new Substance Category +S Inserts a new Substance - Deletes the element line

Item/SubItem Name				Homogeneous Material	Weight	Unit of Measure			Level	Substance Category			Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM
+I	-I	+M	-M				+C	-C			+S	-S						-	+	
				Ablefill UF8826	27.89	mg			Supplier	Epoxy Resin			Epoxy Resin	27610-48-6		12.54	mg			
									Supplier	Silicon Dioxide			Silicon Dioxide	7631-86-9		7.67	mg			
									Supplier	Cyanate Ester Resin			Cyanate Ester Resin	47073-92-7		5.57	mg			
									Supplier	Curing Agent & Hardener			MISC.	SYSTEM		2.08	mg			
									Supplier	Bromine			Bromine	7726-95-6		0.007	mg			1
		+M	-M	DCL-4 (LABRE)	49.79	mg			Supplier	Dimethyl Siloxane, Die			Dimethyl Siloxane, Die	68083-19-2		22.03	mg			
									Supplier	Silica, Crystalline			Silica, Crystalline	14808-60-7		17.05	mg			
									Supplier	Silica, Dimethylvinyl			Silica, Dimethylvinyl	68988-89-6		7.47	mg			
									Supplier	Silica, Amorphous			Silica, Amorphous	7631-86-9		2.49	mg			
									Supplier	Dimethyl, Methylhyd			Dimethyl, Methylhyd	68037-59-2		0.5	mg			
									Supplier	Carbon Black			Carbon Black	1333-86-4		0.25	mg			
		+M	-M	Thermoset MG4	10.21	mg			Supplier	Metal			MISC.	SYSTEM		4.21	mg			
									Supplier	Zinc Oxide			Zinc Oxide	1314-13-2		4.21	mg			
									Supplier	Silicone Polymers			MISC.	SYSTEM		1.79	mg			
		+M	-M	MGC Substrate	1,969.89	mg			Supplier	Continuous Filament			Continuous Filament	65997-17-3		745.43	mg			
									Supplier	Copper			Copper	7440-50-8		483.36	mg			
									Supplier	Epoxy Resin			Epoxy Resin	29690-82-2		269.26	mg			
									Supplier	Bismaleimide (Part of BT)			Bismaleimide (Part of BT)	13676-54-5		141.72	mg			
									Supplier	Triazine (Part of BT)			Triazine (Part of BT)	25722-66-1		141.72	mg			
									Supplier	Aluminum Hydroxide			Aluminum Hydroxide	21645-51-2		90.6	mg			
									Supplier	Solder Mask			MISC.	SYSTEM		67.35	mg			
									Supplier	Fused Silica			Fused Silica	60676-86-0		28.34	mg			
									Supplier	Tin			Tin	7440-31-5		2.05	mg			

Supply Chain Data Exchange

❖ Industry Data Exchange Standards

❖ IPC 1752A replaced IPC 1752 v 1.x

- ❖ Maintained by the 2-18b IPC Committee.
- ❖ Reportable substance list based on IEC 62474 DSL
- ❖ Exemption list is kept up to date
- ❖ No human readable form – must have a compatible viewer to see the data (XML only)
- ❖ Commonly used in the electronics supply chain.
- ❖ Supported by most compliance software platforms.

Supply Chain Data Exchange

❖IPC 1752A example (GreenSoft GDM IPC 1752A Viewer):

Product Disclosure Information	
Mode:	Distribute
Response Date:	06/23/2017
Response Comments:	
Supplier Information	
Name:	GreenSoft Technology
Contact Information	
Name:	Randy Flinders
Title:	Sr Manager of product Support
Email:	randy.flinders@GreenSofttech.com
Phone:	702-600-5316
Authorizer Information	
Name:	Randy Flinders
Title:	Sr Manager of product Support
Email:	randy.flinders@GreenSofttech.com
Phone:	702-600-5316

Legal Information					
Declaration:	Standard				
Statement:	Supplier certifies that it gathered the provided information and such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part(s), and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part(s), the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability				
Supplier Acceptance:	Yes / Accepted				
Document Information					
Attachments:	Datasheet ALPHA 7054-24 030116 DATASHEET.pdf SVHC173 ALPHA 3053-3 EUREACH-0117 COC.pdf CoC2 ALPHA 7054-24 030116 EUROHS-0508 COC.pdf MCD ALPHA 7054-24 030917 MCD.pdf				
Product Information					
Product ID	Product Name	Manufacturing Site	Mass	Unit Type	Details
GS-001	widget		3000 mg	Each	View product

Supply Chain Data Exchange

❖ IPC 1752A example (GreenSoft GDM IPC 1752A Viewer):

Product Information	
Product ID:	GS-001
Product Name:	widget
Manufacturing Site:	
Mass:	3000 mg
Unit Type:	Each

EUROHS-0508 Compliance Information	
Product(s) meets EU RoHS requirements without any exemptions: Yes	
EUREACH-0117 Compliance Information	
Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH: Yes	

EUROHS-0508 Material Information						
Substance Group Name	Threshold	Above Threshold	Exemption Code	Amount	Unit	Concentration (%)
Lead/lead compounds	0.1% by weight (1 000 ppm) of homogenous materials	No				0
Mercury/mercury compounds	0.1% by weight (1 000 ppm) of homogenous materials	No				0
Cadmium/cadmium compounds	0.01% by weight (100 ppm) of homogenous materials	No				0
Chromium VI compounds	0.1% by weight (1 000 ppm) of homogenous materials	No				0
Polybrominated biphenyls (PBBs)	0.1% by weight (1 000 ppm) of homogenous materials	No				0
Polybrominated diphenyl ethers (PBDEs)	0.1% by weight (1 000 ppm) of homogenous materials	No				0

EUREACH-0117 Material Information						
Substance Group Name	Threshold	Above Threshold	Exemption Code	Amount	Unit	Concentration (%)
4-Aminoazobenzene	0.1% by weight (1 000 ppm) of any article	No		0	massPercent	
2,2'-dichloro-4,4'-methylenedianiline	0.1% by weight (1 000 ppm) of any article	No		0	massPercent	
4,4'-Diaminodiphenylmethane	0.1% by weight (1 000 ppm) of any article	No		0	massPercent	
4,4'-oxydianiline and its salts	0.1% by weight (1 000 ppm) of any article	No		0	massPercent	
6-methoxy-m-toluidine (p-cresidine)	0.1% by weight (1 000 ppm) of any article	No		0	massPercent	

Supply Chain Data Exchange

❖ **IPC 1752A** example (GreenSoft GDM IPC 1752A Viewer):

Homogeneous Material Information										
Subpart Name	Mass	Unit	Substance Category Type	Substance Category Name	Exemption Code	Substance Name	CAS Number	Mass	Unit	Concentration (%)
Insulation	940	mg	Supplier	Polyvinyl Chloride (PVC)		Polyvinyl chloride (PVC)	9002-86-2	550	mg	58.51064
			Supplier	Other Substances		Tris(2-ethylhexyl) benzene-1,2,4-tricarboxylate (TOTM)	3319-31-1	290	mg	30.8510647
			Supplier	Antimony/Antimony Compounds		Diantimony trioxide	1309-64-4	30	mg	3.19148946
			Supplier	Other Substances		Propylidynetrimethyl trimethacrylate	3290-92-4	30	mg	3.19148946
			Supplier	Proprietary Materials and Substances		Misc	system	40	mg	4.255319
Conductor Tin Plated	2060	mg	Supplier	Copper and Copper Compounds		Copper	7440-50-8	2020	mg	98.05825
			Supplier	Tin and Tin Compounds		Tin	7440-31-5	40	mg	1.94174755

Supply Chain Data Exchange

❖ Industry Data Exchange Standards

- ❖ IEC 62474 is the international standard aimed at material substance data exchange.
 - ❖ Maintained by the IEC TC-111 Committee.
 - ❖ Companion standard to the IEC 62474 DSL
 - ❖ Exemption list is kept up to date by TC-111 committee
 - ❖ No human readable form – must have a compatible viewer to see the data (XML only)
 - ❖ Not yet commonly used in the electronics supply chain for data exchange – but this is expected to change.
 - ❖ Very similar in structure to IPC 1752A, but not identical. The two committees work together to try and harmonize as much as possible.

Summary

- ❖ Producers of articles should be aware of the potential impacts of REACH compliance. It is much more than SVHC certificates....
- ❖ Understand the impact of the re-interpretation of an “Article”
- ❖ Ensure the following have been addressed:
 - ❖ SVHC analysis and communication and/or notification responsibilities
 - ❖ Annex XIV applicability reviewed and addressed if needed
 - ❖ Annex XVII reviewed for applicability to the product and any restricted substances removed from the product
 - ❖ Confirmation registration is not required for SHVCs released from the article.
- ❖ Understand data exchange methodologies and how to leverage them for compliance validation and data management.



THANK YOU!



323-254-5961
www.greensofttech.com