

# Environmental Compliance Reporting – Mastering a Moving Target

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## Abstract:

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Companies that have initiated internal resources to obtain compliance data have realized that collecting, and more importantly, *maintaining* the currency of that data requires more resources than available. For a case in point, one such company utilized 3 component engineers over 3 years to collect compliance data on ~5000 parts only to find out that all the data collected was now out of date. Why was it out of date? Among several reasons: the EU changed the method for reporting exemptions, REACH SVHC's were added (several times) and manufacturers were forced to change and republish their declaration documents to meet these new requirements. Additionally, in North America Conflict Minerals declaration has been introduced demanding yet more documentation collection and maintenance. And, there will be more change.

Compounding the resource need is a lack of standardized data. All manufacturers publish in pdf, Excel, Word docs, etc, where there is no normalized standard. The data needs to be “lifted” from these documents and transferred to a parsed database. Quality and accuracy is at risk both from the supplier (~40% of supplier declaration documents are currently being returned to the manufacturer for correction) and the manual transfer process itself. Additional resources are needed in QA personnel with a specialized expertise in Environmental Compliance.

A centralized, publicly available database would be ideal if there were a method of ensuring quality of data served, however getting the industry to adopt a standard has not been possible. There are opt-in web services that require the manufacturer to normalize and upload data to a portal; however there is no quality control and no guarantee that all suppliers will participate leaving the need, once again for dedicated internal resources to provide specialized QA/CE collection and maintenance personnel.

A study was conducted to determine what internal resources would be needed to accurately collect, QA maintain and produce product level compliance reports on ~5000 components and material. Here is a list of the findings:

- 3-5 technicians to find and manually transfer the data from manufacturers published documents
- 2 component engineers to review and QA the physical characteristics of the data collected
- 2 Environmental compliance engineers to review, QA and manage the correction phase
- Database software
- IT implementation resources

Most companies do not have or can't afford this reality. Since the manufacturers are not likely to adopt a standard method for publishing in the near term, and more change is inevitable, the only solution available today is a 3<sup>rd</sup> party data provider; one that *does* have the resources to collect, QA, maintain and deliver. Our study found that the fees for these 3<sup>rd</sup> party services are typically less than the cost to implement the necessary resources internally. Other IPC members can attest to this and their success.

# **Environmental Compliance Reporting – Mastering a Moving Target**

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## **Introduction:**

Environmental Compliance reporting, today, for electronic design and manufacturing companies is nothing short of frustrating. There are several reasons, most of which will be covered in this paper and the associated presentation however, they can be summarized in one simple word; CHANGE.

Fortunately there is a way to overcome this frustration and there is resolve to reporting environmental compliance for you products. To get there you will need to understand the current landscape of what exists, what is possible and what should be avoided. There are companies that have lost up to 3-5 years of time and money attempting to manage environmental compliance only to find out that the approach they had selected is inadequate.

The goal of this paper is to illuminate current conditions and to relay, realistic and successful methods of environmental compliance management and reporting.

## **Mastering a Moving Target – Current Conditions:**

### Change is a constant.

In 2006 it was believed by some that if their company collected Certificates of Compliance for their parts and components, and if they were all RoHS compliant, then the job was done. Since then there has been nothing but change in:

- New standards being added; REACH, China RoHS, Conflict Minerals..etc.
- Updated requirements for compliance reporting, i.e. RoHS II-recast, REACH-new SVHC's added bi-yearly, etc.
- Suppliers republishing data as products change and as standards change
- IPC updating 1752 requiring suppliers to republish existing outdated declarations
- Vietnam RoHS, India, RoHS....and many more.

### **Change is a constant: The standards are a moving target.**

RoHS II, or the RoHS recast of mid-2011 made changes to the existing exemption number system rendering all existing published declaration documents obsolete. This was not insignificant. More than 35% of electronic components purchased today take advantage of these exemptions. This means that all companies that take exemptions would need to re-evaluate and republish their exemptions against the new numbering system. And, of course there is the trickle down affect. If your company has any parts or materials that include exemptions your company now no longer has a valid compliance declaration. Manufacturers need to republish, your company needs to recollect and republish. Compound this with that fact that all of your suppliers will not recognize and republish at the same time and what do you have? You need someone to continually monitor and make sure your data is current.

The arrival of REACH introduced what are called Substances of Very High Concern, or in lay terms substances that the EU wanted identified and eventually removed from the products being shipped into Europe.

It started with 15 SVHC's. New substances are added to the list twice per year (so far). What does this mean? CHANGE. Every time there is a new SVHC added your company will have to reevaluate whether you are affected and recollect and republish.

Now, some will say, "If you have Full Material Disclosure (all the weights and measures of the materials in the part or component) then you will not need to recollect and republish because you already know what's in there and you can check to see if the new SVHC(s) is present". Not so. A good portion of companies publish with proprietary

materials, or in other words, they won't tell you everything that is in there. This means you have to get a statement such as, "We don't have any of those in there". Which means you have to recollect every time SVHC's are added, which means, you need someone to continually monitor and make sure your data is current.

For those manufacturers that adopted IPC-1752-1.1-2 documents for publishing declarations will also have to republish to cover the new exemptions. The original 1752 document had an embedded XML and PDF writer. There have been no updates to this document since 2008. If your company is using these declarations to support your declaration then you have been obsolete since 2008! IPC has a new 1752-A (also known as 175X) that does a much better job of supporting the current exemptions and REACH requirements (also, likely upcoming Conflict Mineral requirements) but does not have the embedded PDF writer. There are free tools available but they have only been available for the latter part of 2011.

Then, there is Conflict Minerals. Currently, conflict mineral statements need to be collected for all of your parts, like Certificates of Compliance, however, soon you will need to declare what materials you have and at which "approved" smelter they were produced? You will need to establish a new collection and reporting method as the requirements change, which means again, you need someone to continually monitor and make sure your data is current.

China RoHS is finally evolving as noted in a report from Oct. 2011. It will likely mirror requirements for RoHS II and REACH, but no one is definitively sure until the list of "electronic products" is released, likely in Q1 2012. You will need to monitor this and add collection and reporting as it changes which means, well you get the idea.

What else? Vietnam announces the need for "technical records" to "demonstrate compliance". Will the exemptions be the same? India too has announced the need for reporting for May 2012 with "certain listed" exemptions?

Another example of the standards are a moving target.

### **Change is a constant: Supplier Declarations**

What would it take for you to find Full Material Disclosure documents for all of your parts from all of your suppliers? What would it take for you to manually "lift" that data from those documents into a central database?

Consider this. There is no standard format; they could be Excel spreadsheets, Word docs, PDF docs, etc. There is no standard to the data presented. You cannot use software tools. It has to be manually transcribed. Some of the information is listed with 14 digits of precision!!! How are you going to do that without making mistakes? How will you assure quality of the data!

The job listed above is far too often taken for granted!

Many companies have tried to do this in house. They inform their management of the compliance requirement with the response, "You are not too busy. Go do it yourself?" Eventually what happens is that after 3 years of trying to collect the data along with their "day job" they throw up their hands and state, finally that it is not possible with the resources available.

Another example are the several software manufacturers that give promise that the software is complete with a tool to "poll" your suppliers to respond with the appropriate data. This is a naïve and dangerous assumption. It assumes that the supplier is willing to respond to your request. In some cases it assumes that the supplier will type in the information to the "portal page". Suppliers are being bombarded with requests like these. How can you be sure that they will enter the data accurately, if they do it at all? Often they will simply point you to a page where the data exists and again, it's up to you to transcribe.

There is another dangerous assumption that has been propagated over the last few years by software vendors. They will relay the idea that you can simply mandate your suppliers to provide the data to you as you request. After all, you are buying their parts and therefore why wouldn't they? Surely they wouldn't want to lose your business. If you are a Fortune 500 company, you may have this kind of pull, but do you? Ask yourself if your company has this kind of pull for every single part and material from every supplier. Right down to the bags, screws, washers, ink...everything. Nothing can be left out for compliance declaration. And, suppliers come and go. What is the process to manage this?

The reality is you cannot rely on your suppliers. You own the requirement. It's up to you to ensure that it happens which goes back to the need for someone to continually monitor and make sure your data is current. Dedicated resources, not someone who is already doing something else.

### **Change is a constant: Where are you going to put it?**

There is software available with excellent functionality, once you have a method for collecting and maintaining the data. However, these systems can be cost prohibitive! They can also take up to a year or longer to implement. Ask yourself; are *our* customers asking for compliance declaration on our products now? Is it a risk to sales, or will they delay buying if we don't give them a report?

If the answer is yes, then you can't wait, or perhaps afford a software system as mentioned. Perhaps you need a more tactical service that is focused on ensuring your compliance data is collected, maintained and ready for reporting.

There are companies that can provide this type of service. If nothing else, to buy time in setting up the more expensive enterprise level system. The data can always be ported over at a later date once it has been normalized.

There are also opt-in web services that act as a central repository for compliance data. They require the manufacturer to upload their data into the portal, voluntarily and as mentioned earlier this puts you at risk of not having ALL parts loaded (what if 20%, more or less refuse to load data. You can't declare!). But, more concerning with these systems is quality control. How do you know the data is accurate, current and up to date? Ultimately, you will be back to having to collect and QA the data yourself so these systems are not much more than a web spreadsheet.

Current condition awareness must also be given to the fact that there is no such thing as 100% Full Material Disclosure data. There is also no such thing as perfect data declarations. There can be several anomalies. You need to know this from 2 perspectives:

- 1) Some suppliers maintain "proprietary" substances in the makeup of their products. They don't want their competition to know what this particular element is. They will tell you what it isn't. This also results in a blank CAS (Chemical Abstracts Service) number field, meaning there is no numerical representation of the material (needed for rollup and declaration).
- 2) Some declaration data is offered with duplicate substance names for the same element. This works fine in a table, on paper, divided by table lines, however, if it is in the same column, i.e. copper and 2 rows down copper again, software has no way to delineate.

The importance in understanding this is that you will need to put the data into some database for rollup and reporting. The database you choose has to have the flexibility to manage these anomalies. In our review of several software vendors, we found that they were unaware of this need until they were advised and modified the existing import protocol.

However, there are services available that provision unique substance ID numbers where no CAS number exists to manage proprietary records and where duplicate substance names exist. This is better than what some do, which is to enter 99999 as a "dummy" CAS number.

Awareness to these current conditions will allow you not to lose time and money later.

### **Current Conditions: If it's a requirement, why isn't everybody doing it?**

In a study of companies that have implemented a process for declaring environmental compliance to the current standards, we found an interesting statistic. They did not take on the process because it is a requirement. In some cases they would ask what the risk was of doing nothing and the justification did not outweigh the risk.

In almost all cases where a process for declaration was implemented, the reason for implementation was not a need to meet the compliance regulation but rather because it was a risk to sales. A customer was asking for the data and the report and a potential loss in revenue was at stake.

If we were to look at the trend in which market verticals adopted a compliance declaration process, you will find that the early adopters are the ones that make products that are added into another product and then sold. For example, most power supply companies have a program in place. Why, because their customer demanded it to be part of the deliverable.

If you are being asked to justify the need for a data service, and/or software, ask your VP of Sales. Ask them if any of your customers are asking for Environmental Compliance Declaration. If yes, there is a high probability that your request will be accepted.

### **Mastering a Moving Target – How are you going to do it?**

A study was conducted to determine what internal resources would be needed to accurately collect, QA, maintain and produce product level compliance reports on ~5000 components. Here is a list of the findings:

- 3-5 technicians to collect and transfer the data from manufacturers published documents
- 2 component engineers to review and QA the physical characteristics of the data
- 2 Environmental compliance engineers to review, QA and manage the data
- Database software
- IT implementation resources
- Management

**You will need a minimum of 7 dedicated people to manage 5000 parts!! Or, you will need to outsource to a dedicated service with solid quality control.**

To some companies, this is a harsh reality. It shouldn't be. It is unrealistic to think that existing staff of a component engineer, or a couple of component engineers, or the hire of ONE environmental compliance engineer will have the ability to collect and more importantly maintain the data that is needed for today's environmental compliance reporting.

In addition, most quality data services provide collection and maintenance at a price that is less than a 1/4 or sometimes 1/5<sup>th</sup> of what the required dedicated staff would cost.

### **Summary**

You own the need to report compliance to avoid the risk to sales. You own the need for quality and accuracy.

If, the hardest part is collecting and maintaining the data, why not build a process for reporting to your customer, but find a dedicated resources for getting and maintaining the data. Have them make sure it's current and accurate so all you have to do is report.

It will be the most effective way, the least expensive, *AND*, your management will thank you for it!

### **Conclusion**

There are several companies that have successfully implemented Environmental Compliance Reporting. Companies like IBM, Emerson, National Instruments, and many more.

These companies realize that managing and maintaining the data is not for them. Managing the process is.

Call them and ask. They'll tell you.

# Mastering a Moving Target

**CHANGE:**  
Is a constant

# CHANGE:

The standards are a  
moving target.....

A small yellow dot is positioned at the top center of the slide, above the main title.

# RoHS Recast

2011

Changes to exemptions

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Old Exemption number</b>	<b>New Exemption number</b>												
2	1	1, 1(a), 1(b), 1(c), 1(d), 1(e), 1(f)												
3	2a	2(a), 2(a)(1), 2(a)(2), 2(a)(3), 2(a)(4), 2(a)(5)												
4	2b	2(b), 2(b)(1), 2(b)(2), 2(b)(3), 2(b)(4)												
5	2c	No change												
6	3	3, 3(a), 3(b), 3(c)												
7	4	4(a), 4(b), 4(b)-I, 4(b)-II, 4(b)-III, 4(c), 4(c)-I, 4(c)-II												
8	5	5(a), 5(b)												
9	6a	same number, new wording												
10	6b	No change												
11	6c	No change												
12	7a	No change												
13	7b	No change												
14	7c	7(c)-I, 7(c)-II, 7(c)-III												
15	8	8(a), 8(b)												
16	9	same number, new wording												
17	9b	same number, new wording												
18	11	11(a), 11(b)												
19	12	No change												
20	13a	same number, new wording												
21	13a	same number, new wording												
22	14	No change												
23	15	No change												
24	16	No change												
25	17	No change												
26	18	18(a), 18(b)												
27	19	No change												
28	20	No change												
29	21	same number, new wording												
30	22	No longer exists												
31	23	same number, new wording												
32	24	No change												
33	25	same number, new wording												
34	26	No change												
35	27	No change												
36	28	No longer exists												
37	29	No change												
38	30	No change												
39	31	No change												
40	32	No change												
41	33	No change												
42	34	No change												
43	35	No longer exists												
44	36	No change												
45	37	No change												
46	38	No change												

The RoHS recast mid-2011 made changes to the existing exemption numbering system rendering all existing, published declaration documents obsolete.

**Restricted Substances**

**RoHS Maximum Concentration Value (ppm)\***

Cadmium (Cd)	100
Lead (Pb)	1,000
Mercury (Hg)	1,000
Hexavalent Chromium (Cr +6)	1,000
Polybrominated biphenyls (PBB)	1,000
Polybrominated diphenyl ethers (PBDE)	1,000

\* Maximum limit does not apply to applications covered by RoHS exemptions. Maximum Concentration Values are based on homogeneous materials as defined in the RoHS Directive.

Exemptions used (if box is checked):

- 5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.
- 6. Lead as an alloying element in steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy containing up to 4% lead by weight.
- 7. Lead in high melting temperature type (i.e. tin-lead solder alloys) containing more than 85% lead).

Signature *Gail Kelly*  
Product Line Manager

All collection efforts will need to be revisited, re-collected, re-QA'd and re-entered.

All IPC-1752-2 documents published by suppliers in this format, with exemptions are obsolete. In addition, this form does not support REACH unless a custom statement is added, which may be obsolete with every addition to the SVHC list.

At least one signature requires validating. Please fill out the following form. You can save data typed into this form.



**Material Composition Declaration**

© Copyright 2005. IPC, Bannockburn, Illinois. All rights reserved. This document is a standard for both international and Pan-American markets.

1752-2 1.1

Web Site for Information on IPC-1752 Standard  
<http://www.ipc.org/IPC-175x>

Form 1 Distribute  Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Inform

**Supplier Information**

<b>Company Name *</b> AVX Corporation	Company Unique ID 05-889-5921	Unique ID Authority Dun & Bradstreet	<b>Response Date *</b> 2009-10-09	Response Document ID
<b>Contact Name *</b> Dennis Oldland	Title - Contact corporate env. mgr	<b>Phone - Contact *</b> 18439460241	<b>Email - Contact *</b> doldland@avxus.com	Duplicate Contact -> Authorized Representative
<b>Authorized Representative *</b> Dennis Oldland	Title - Representative corporate env. mgr	<b>Phone - Representative *</b> 18439460241	<b>Email - Representative *</b> doldland@avxus.com	
Supplier Comments or URL for Additional Information				

Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight *	UOM	Unit Type
			2009-01-14	2	Myrtle Beach	173.775	mg	Each
Alternate Recommendation	1812x(C or D)xxxxZxx	1812 X5R/X7RFlexiterm family	2009-10-09	Alternate Item Comments		Family data sheets encompass request		

**Manufacturing Process Information**

Terminal Plating / Grid Array Material <b>Matte Tin (Sn) - with Nickel (Ni) barrier</b>	Terminal Base Alloy <b>Not Applicable</b>	J-STD-020 MSL Rating <b>1</b>	Peak Process Body Temperature <b>260 C</b>	Max Time at Peak Temperature <b>10 seconds</b>	Number of Reflow Cycles <b>3</b>
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Comments

Save the fields in this form to a file  Import fields from a file into this form  Clear all of the fields on this form  Lock the fields on this form to prevent changes

**RoHS Material Composition Declaration** Declaration Type \*

**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

Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2002/95/EC and implemented by the laws of the European Union member states) contains any of the following restricted substances in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that such information is true and correct. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws and regulations. Supplier is not to be 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 such information, at a minimum, its suppliers have provided certifications regarding their contributions to the part, and those certifications are at least as comprehensive as the information 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 such 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 that Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Supplier's Standard Terms and Conditions of Sale applicable to such part shall apply.

Here is an example.

**RoHS Declaration \*** 4 - Item(s) does not contain RoHS restricted substances per the definition above except for selected exemptions **Supplier Acceptance \***

**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.

Exemption List Version: EL2006/690/EC  
+ - 7c. Lead in electronic ceramic parts (e.g. piezoelectronic devices).

**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 **Dennis Oldland**  
Digitally signed by Dennis Oldland  
DN: cn=Dennis Oldland, ou=AVX Corporation, ou=Corporate EMS,  
email=doldland@avx.com, o=AVX  
Date: 2009.10.08 14:52:08 -0400

# REACH

Ongoing

Bi-annual additions to the candidate  
list

- HOME
- SIEF
- REACH 2013
- REACH
- DATA SHARING
- ENFORCEMENT
- CONSULTATIONS
- ECHA CHEM
- REACH-IT
- CLP
- GUIDANCE
- LEGISLATION
- HELP
- SMES
- NEWS AND EVENTS
  - Press material
  - Image library
  - Video gallery
  - Events
  - Webinars
- ABOUT ECHA
- PUBLICATIONS
- WORKING WITH US
- APPEALS
- STAKEHOLDERS

## Press Release

ECHA/PR/11/15  
Media enquiries: [ECHA Press](#)  
Helsinki, 20 June 2011

### ECHA updates the REACH Candidate List

Seven new substances have been added to the Candidate List of Substances of Very High Concern (SVHC) for authorisation. Companies manufacturing or importing these substances, or articles containing the substances, need to check their potential obligations that result from the listing.

Following unanimous agreement of the Member State Committee, ECHA has added seven substances to the Candidate List, which are carcinogenic and/or toxic for reproduction. The list now contains 53 substances in total.

In addition, the entry on the Candidate List for cobalt dichloride has been updated due to its classification as toxic for reproduction. Cobalt dichloride was originally identified as an SVHC in October 2008 because of its classification as carcinogenic.

As foreseen by REACH, ECHA will regularly recommend to the European Commission that substances prioritised from the Candidate List are included in the Authorisation List (Annex XIV of the REACH Regulation).

Beyond possible other obligations, producers and importers of articles shall notify ECHA within six months after a substance has been included in the Candidate List, if the substance is present in those articles in quantities totalling over one tonne per producer or importer per year and if the substance is present in those articles above a concentration of 0.1 % weight by weight.

Information on obligations resulting from the inclusion of substances in the Candidate List is available on ECHA's website. There is also a manual with instructions on how to create and submit a notification on substance(s) in articles.

### Further Information

#### Candidate List

[http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_table\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp)

#### Summary of the obligations linked to the Candidate List:

[http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_obligations\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_obligations_en.asp)

#### Web pages on substances in articles notifications:

[http://echa.europa.eu/reach/sja\\_en.asp](http://echa.europa.eu/reach/sja_en.asp)

#### Data submission manual for substances in articles notifications:

[http://echa.europa.eu/doc/reachit/dsm20/dsm\\_20\\_v1.0\\_en.pdf](http://echa.europa.eu/doc/reachit/dsm20/dsm_20_v1.0_en.pdf)

#### Webinar on Substances in articles notification:

[http://echa.europa.eu/news/webinars\\_en.asp](http://echa.europa.eu/news/webinars_en.asp)

#### Authorisation process:

[http://echa.europa.eu/chem\\_data/authorisation\\_process\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process_en.asp)

Here is the announcement from June 20<sup>th</sup>, 2011 adding 7 new SVHC's.

Substance name	EC number	CAS number	Proposed SVHC properties	Potential uses *
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Click to decrease the magnification of the entire page

A1P0-11F-008  
Jul.5 2011.

To our valued customers

About the content of SVHC 53 substances in our products (Jul.5.2011)

**REACH declarations are a moving target. They need to be re-collected each time an SVHC is added, especially where proprietary substances are present (more later).**

... of SVHC 53 substances

We confirm, based on the information/data and know... we possess, the situation of products and packages containing 0.1wt% or more SVHC 53 substances of the candidate list (issue date: Jun.20.2011) are as follow.

1. Products: PKM13EPY-40S2-B0, PKM13EPP-40S2-B0, and PKM13EPYH40S2-B0  
Contain SVHC substance: Bis(2-ethylhexyl)phthalate) (DEHP) CASNo : 117-81-7  
Application: product protect tape (used in the adhesive of the tape for dust prevention)

2. Products except described in clause 1.  
In the products supply to you, we do have no products and packages containing 0.1wt% or more SVHC 53 substances of the candidate list (issue date: Jun.20.2011) .

By issuing this document, the preceding document ( NO. A1P0-10F-020) lose it's effect.

**Change:** The EU REACH Committee has agreed on the identification of eight substance to be added to Annex XIV

**Details:** The proposed addition of eight substances to Annex XIV of REACH (Substances subject to Authorization), passed from the European Commission to the EU REACH Committee in early August 2011. The Committee voted unanimously this week to add all eight substances to the Authorization list (REACH Annex XIV). This means that in order to manufacture, use or import the substance in any volume in Europe an authorization will first have to be granted by ECHA.

Sunset dates (by when an authorization has to be received for continued use/import/manufacture) range from February to August 2015.

Substance Name	CAS Number		
2,4 – Dinitrotoluene (2,4-DNT)	121-14-2	explosives	intermediate
Diarsenic pentaoxide	1303-28-2		
Diarsenic trioxide	1327-53-3		
Diisobutyl phthalate (DIBP)	84-69-5		
Lead chromate	7758-97-6		
Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8		
Lead sulfochromate yellow (C.I.		pigment, coating	

13 of the 53 substances require an authorization before you can import your product. 8 more were added to a total of 19 in Sept. 2011. You have until Aug 2015 to get an authorization, but in reality, your customers will insist that you get them out. In fact, this goes for all SVHC's in your products, regardless of weight, your customers will want them out.

# Conflict Minerals

How will it be enforced?

## CONFLICT METAL STATEMENT

As one of the world's largest manufacturers of discrete semiconductors and passive components, we have worked with our vendors to ensure that their supplies of metal do not come from Conflict Regions.

Our raw materials vendors have established specific supply chain steps and provide certifications that their metals are not sourced from Democratic Republic of the Congo Conflict Regions. These metals include:

- Gold (Au)
- Tantalum (Ta)
- Tungsten (W)
- Tin (Sn)
- Cobalt (Co)

Vishay conducts periodic reviews with our vendors to ensure compliance with this policy; and we observe that their metal supplies do not come from the

Currently, conflict mineral statements need to be collected for all of your parts, like Certificates of Compliance, however, soon you will need to declare what materials you have and at which "approved" smelter they were produced? You will need to establish a new collection and reporting method as the requirements change.

# China RoHS

Nov 2011

Electronic Information Products

## Is China RoHS moving nearer?

The Certification and Accreditation Administration of China has published implementation rules on the Voluntary Certification on the Pollution Control of Electronic Information Products.

The implementation rules will enter into force on 1 November 2011 and cover such as product coverage, types of certification, certification procedures and requirements, RoHS certificate, a voluntary product certification mark as well as details on the certification fee.

Also published is the first batch of Electronic Information Products requiring certification.

These include electronic information products, peripherals, components and electronic materials.

The Chinese authorities continue to work on several new standards and it is still the intention that "electronic information products" be extended to "electrical and electronic products" so more aligned to EU RoHS.

While the China RoHS restriction phase is running some four years

China RoHS is finally evolving as noted in this report from Oct. 2011. You will need to monitor this and add collection and reporting as it changes which will likely be later this year.

The next post in this blog was [Cast CE - important to note.](#)  
The next post in this blog is [Summary of SEC roundtable - October 18.](#)

Many more can be found on the [main index page](#) or by looking through [the archives](#).

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- [Go back to the home page](#)
- [Go back to the blogs home page](#)

ADVERT



# What else?

**Date:** August 31, 2011

**Subject:** Vietnam RoHS

**Change:** Vietnam RoHS for Electrical and Electronic Products

**Details:** Vietnam has introduced RoHS (Restriction of Hazardous Substances) measures which place concentration limits on the RoHS substances: lead, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE). The restrictions were published in a circular on August 10, 2011. The circular takes effect from September 23, 2011. It also establishes additional requirements for manufacturers and importers to disclose compliance to the circular (takes effect as of December 1, 2012) and to have technical records available to demonstrate compliance. Manufacturers should ensure that EEE products marketed in Vietnam and within scope of the restrictions meet the requirements.

Exemptions to the limits are listed in an Appendix, similar to the method used for the EU RoHS Directive. The exemptions are modeled after those in the EU RoHS Directive.

Vietnam announces the need for "technical records" to "demonstrate compliance". Will the exemptions be the same?

**Date:** June 06, 2011

**Subject:** India Publishes WEEE / RoHS Rules

**Change:** India has Published the E-waste Management and Handling Rules, 2011

**Details:**

Originally drafted in 2010, India's Ministry of Environment and Forests has published their E-waste rules. The rules come into effect starting May 1, 2012 and combine the requirements for restrictions of hazardous substances (lead, mercury, cadmium, chromium 6 and polybrominated phenyls) and creating the requirements for e-waste management, both similar to the European RoHS/WEEE counterparts.

The RoHS section of the rules contains the same limits as Europe (0.1% for lead, mercury, chromium, PBB and PBDE, and 0.01% for cadmium), with certain listed exemptions.

The WEEE section creates the need for extended producer responsibilities, requiring that producers ensure their electrical/electronic products are properly channeled to authorized collection agencies. The crossed-out wheelie bin symbol will also be required on covered

India too for May 2012 with "certain listed" exemptions?

**CHANGE:**  
Is a constant

# CHANGE:

What about supplier  
declarations?.....



What would it take for you to find these documents from every supplier for all of your parts?

What would it take for you to manually and accurately lift all the data – AND - keep it current every time a standard changes or is added or republished, i.e. REACH 15 is now 53, ROHS II, or ?

**Materials Declaration**

Package	PDIP
Body Size	300 mils
LeadCount	14
Option	PbFree

**Molding Compound**

Item	% of Compound	Weight (g)	PPM
Epoxy Cresol Novolac	16	1.02 E-01	104198
SiO2 Filler	72	4.57 E-01	468893
Phenol Novolac	8	5.08 E-02	52099
Antimony_Sb2O3	2.2	1.40 E-02	14327
Brominated Resin	1.6	1.02 E-02	10420
Carbon Black	0.2	1.27 E-03	1302

**Molding Compound**

Item	PPM	Method
Pb	<2	US EPA method #3052 & 6010B
Cd	Not Detected	BS EN 1122:2001 ICP AES
Hg	<2	US EPA method #3052 & 7471A
Cr+6	<2	US EPA method #3060A & 6010B

**Leadframe**

Item	% of Leadframe	Weight (g)	PPM
Cu	97.5	3.06 E-01	313668
Fe	2.35	7.37 E-03	7560
P	0.03	9.41 E-05	97
Zn	0.12	3.76 E-04	386

**Die Attach Paste**

Item	PPM	Method
Pb	<2	ICP AES
Cd	<2	ICP AES
Hg	<2	ICP AES
Cr+6	<2	ICP AES
PBB	Not Detected	
PBDE	Not Detected	

**Internal Leadframe Plating**

Item	% of Plating	Weight (g)	PPM
Ag	100	9.21 E-04	945

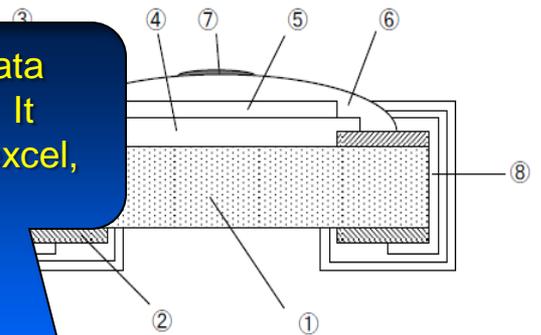
**構成物質一覧表**  
Constitution Material List

Ver. MCR10H-M-001b

品名 Part name	角形チップ固定抵抗器 Fixed chip resistors
品番 Part number	MCR10EZH シリーズ MCR10EZH Series
重量 *1 Weight *1	4.99 mg/pc

\*1 typical value

作成日 Date	2009/11/01
会社名 Company	ローム株式会社 ROHM CO., LTD
所在地 Address	京都市右京区西院溝崎町21 21 Saiin Mizosaki-cho Ukyo-ku Kyoto Japan
部署名 Division	パッシブデバイスユニット抵抗器チーム FAEG
責任者 Approve	
担当者 Issued by	
TEL	
FAX	
E-mail	rohm.co.jp



There is no standard to data published from suppliers. It could be pdf, Word doc, excel, etc.

How are you going to get each data element from this pdf into a centralized database for rollup, without errors! You can't apply software. It's manual process.

製品部位 Main Element	物質名 Materials	CAS No.	含有量 Weight	含有量 Weight	備考欄 Note
① 基板 Substrate	酸化アルミニウム Aluminum oxide	1344-28-1	4.00 mg	96.90 %	
	二酸化ケイ素 Silicon dioxide	7631-86-9	0.0866 mg	2.10 %	
	酸化マグネシウム Magnesium oxide	1309-48-4	0.0413 mg	1.00 %	
② 裏電極 Electrode-1	銀 Silver	7440-22-4	0.0336 mg	80.00 %	
	ガラス Glass	65997-18-4	0.00437 mg	10.40 %	
	一酸化鉛 Lead(II) oxide	1317-36-8	0.00135 mg	3.20 %	RoHSに対応 Conformed to RoHS.
	酸化ビスマス Bismuth oxide	1304-76-3	0.00168 mg	4.00 %	
	酸化銅 Copper oxide	1317-39-1	0.00101 mg	2.40 %	

	H	I	J	K	L	M	N	O	P	Q
1										
2										
3										
4										
5										
6										
7										
8				MATERIAL						
9	Colored CFCs		Recycling Code Standards	Material Name	Tradename	Material Manufacturer Name	Material Weight			
10										
11	N	N	"Not Applicable"							
12				Silicon w/metal Al, Au IV	die	FabTech	0.86			
13				Gold Wire	Gold	Trade Secret	0.14			
14				Iron Alloy	Alloy42	Trade Secret	30.88	%		
15				Molding Compound	CEL-4600		67.53	%		
16				Solder Plating 85/15 SnPb	Lead Solder	Many	0.59	%		
17	N	N	"Not Applicable"							
18				Silicon w/metal Al, Au IV	die	FabTech	0.86	%	N/A	
19				Gold Wire	Gold	Trade Secret	0.14	%	N/A	
20				Iron Alloy	Alloy42	Trade Secret	30.9	%	N/A	
21				Molding Compound	CEL-4600		67.57	%	N/A	
22				Solder, Sn Plating	Matte Tin	Many	0.53	%	N/A	
23	N	N	"Not Applicable"							
24				Silicon w/metal Al, Au IV	die	FabTech	0.86	%	N/A	
25				Gold Wire	Gold	Trade Secret	0.14	%	N/A	
26				Iron Alloy	Alloy42	Trade Secret	30.88	%	N/A	
27				Molding Compound	CEL-4600		67.53	%	N/A	
28				Solder Plating 85/15 SnPb	Lead Solder	Many	0.59	%	N/A	
29	N	N	"Not Applicable"							
30				Silicon w/metal Al, Au IV	die	FabTech	0.86	%	N/A	
31				Gold Wire	Gold	Trade Secret	0.14	%	N/A	
32				Iron Alloy	Alloy42	Trade Secret	30.9	%	N/A	
33				Molding Compound	CEL-4600		67.57	%	N/A	
34				Solder, Sn Plating	Matte Tin	Many	0.53	%	N/A	
35	N	N	"Not Applicable"							
36				Silicon w/metal Al, Au IV	die	FabTech	1.13	%	N/A	
37				Gold Wire	Gold	Trade Secret	0.14	%	N/A	
38				Iron Alloy	Alloy42	Trade Secret	30.63	%	N/A	
39				Molding Compound	CEL-4600		66.84	%	N/A	
40				Ink	Ink	Many	0.68	%	N/A	
41				Solder Plating 85/15 SnPb	Lead Solder	Many	0.58	%	N/A	
42	N	N	"Not Applicable"							
43				Silicon w/metal Al, Au IV	die	FabTech	1.13	%	N/A	
44				Gold Wire	Gold	Trade Secret	0.14	%	N/A	
45				Iron Alloy	Alloy42	Trade Secret	30.63	%	N/A	
46				Molding Compound	CEL-4600		66.84	%	N/A	
47				Ink	Ink	Many	0.68	%	N/A	
48				Solder, Sn Plating	Matte Tin	Many	0.58	%	N/A	
49	N	N	"Not Applicable"							
50				Silicon w/metal Al, Au IV	die	FabTech	4.32	%	N/A	

In this excel spreadsheet, which pieces of data belong to your part? You have to sift through each document for every part. That can be 1000's if not 10's of 1000's documents and data elements!

Halogen-Free

There are 128 pages in this document. One with "How to use this document" ..... Well, you get the point.

Compliant to IEC 61249-2-21:2003

- Introduction and Methodology
- How to use this document
- 03\_DDPK\_MatteTin
- 05\_DDPK\_MatteTin
- 08\_DFN\_3x3\_MatteTin
- 10\_DFN\_3x3\_MatteTin
- 16\_QFN\_3x3\_MatteTin
- 08\_DFN\_4x4\_MatteTin
- 08\_DFN-S\_6x5\_MatteTin
- 44\_MQFP\_10x10x2\_MatteTin
- 08\_MSOP\_3x3\_MatteTin
- 10\_MSOP\_3x3\_MatteTin
- 08\_PDIP\_300\_MatteTin
- 14\_PDIP\_300\_MatteTin
- 16\_PDIP\_300\_MatteTin
- 18\_PDIP\_300\_MatteTin
- 20\_PDIP\_300\_MatteTin
- 24\_PDIP\_600\_MatteTin
- 28\_PDIP\_600\_MatteTin
- 40\_PDIP\_600\_MatteTin
- 28\_PLCC\_MatteTin
- 44\_PLCC\_MatteTin
- 68\_PLCC\_MatteTin
- 84\_PLCC\_MatteTin
- 16\_QFN\_4x4\_MatteTin
- 20\_QFN\_4x4\_MatteTin
- 24\_QFN\_4x4\_MatteTin
- 20\_QFN\_5x5\_MatteTin
- 28\_QFN\_6x6\_MatteTin
- 40\_QFN\_6x6\_MatteTin
- 44\_QFN\_8x8\_MatteTin
- 64\_QFN\_9x9\_MatteTin
- 28\_QFN-S\_6x6\_MatteTin
- 16\_QSOP\_MatteTin
- 03\_SC-70\_MatteTin
- 05\_SC-70\_MatteTin
- 06\_SC70\_COL\_MatteTin



Semiconductor Device Type: MF 10 (Lead DFN 3x3 mm (E2/EJ))

Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm
Silica, fused	60676-86-0	Mold Compound	71.820	17.811	718,200
Epoxy Resin (NLP # 500-033-5)	Trade Secret	Mold Compound	3.870	0.960	38,703
Phenolic Resin	Trade Secret	Mold Compound	3.870	0.960	38,703
Carbon Black	1333-86-4	Mold Compound	0.239	0.059	2,394
Copper	7440-50-8	Lead Frame	10.031	2.488	100,314
Iron	7439-89-6	Lead Frame	0.247	0.061	2,468
Silver	7440-22-4	Lead Frame	0.200	0.050	2,000
Zinc	7440-66-6	Lead Frame	0.013	0.003	131
Phosphorus	7723-14-0	Lead Frame	0.009	0.002	87
Silver	7440-22-4	Die Attach	0.570	0.141	5,700
Carbocyclic acrylate	Trade Secret	Die Attach	0.113	0.028	1,125
Bismaleimide resin	Trade Secret	Die Attach	0.023	0.006	225
Acrylate	Trade Secret	Die Attach	0.023	0.006	225
Additive	Trade Secret	Die Attach	0.023	0.006	225
Silicon	7440-21-3	Chip (Die)	7.500	1.860	75,000
Gold	7440-57-5	Wire Bond	0.200	0.050	2,000
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.250	0.310	12,500
<b>CARM / Material compilation</b>			<b>0.0248 g Total Mass</b>		
			<b>TOTALS:</b>	<b>100.000</b>	<b>24.800</b>

Termination Base Alloy: Copper Alloy (Cu)	RSRC 2	RSRC 5	Package Homogeneous Materials	JEDEC 97 Product Marking and/or Pkg. Labeling e3
19.75			(mg) Total	79.8
EME-G770H			Mold Compound	60676-86-0 90.00
				Trade Secret 4.85
				Trade Secret 4.85
				1333-86-4 0.30
			Total	100.00
2.60			(mg) Total	10.5
194-AG			Lead Frame	7440-50-8 95.54
				7439-89-6 2.35
				7440-22-4 1.91
				7440-66-6 0.13
				7723-14-0 0.08
			Total	100.00
0.19			(mg) Total	0.75
GMS19			Die Attach	7440-22-4 75
				Trade Secret 15
				Trade Secret 3
				Trade Secret 3
			Total	100.00
1.86			Total (mg)	7.5
			Chip (Die)	7440-21-3 100
			Total	100.00
0.05			(mg) Total	0.2
JGPSS1 (D02)			Wire Bond	7440-57-5 100
			Total	100.00
0.31			(mg) Total	1.25
			Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	7440-31-5 100.00
			Total	100.00
24.800				100.000

This semiconductor device and its homogenous materials comply with EU Directive 2002/95/EC (RoHS Directive) and with EU Directive 2002/53/EC (End-of-Life Vehicles (ELV) Directive).

Microchip's corporate Certificate of RoHS Compliance for all of its Pb-free semiconductor devices is published on Microchip's website: [www.microchip.com](http://www.microchip.com) Corporate Information > Environmental Health and Safety > Certificate of Compliance for Semiconductor Products

If a chemical substance is absent from the list above, the chemical substance is NOT an intentional ingredient in the semiconductor device and, to the best of Microchip Technology Incorporated's knowledge and belief as of the date of this document, there is no credible reason to believe that the unavoidable impurity concentration of the chemical substance, if any, is not below the threshold of regulatory concern for any regulatory scheme world-wide.

Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and/or analytical test data. Trace metals analysis is available on Microchip's website: [www.microchip.com](http://www.microchip.com) > Corporate Information > Environmental Health and Safety > Resources (box) > Pb-free Laboratory Analytical Reports

The protective "tubes" in which the specific semiconductor is shipped and "window envelope" used to hold the packing slip on the outer box are made from polyvinyl chloride (PVC) plastic.

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**COMPLIANCE**  
Management Module

And, where are you going to put it?

There are software systems out there like Agile, Enovia (Matrix One), PTC, etc., however, they are typically \$150K plus and a year or two to implement.

What if your customer is asking for your product compliance report now and what if it's a risk to sales?!

Account Log Out

Dashboard

Selected BOM: Product BOM

Show Search/Filter

	Internal PN	Catalog PN	Manufacturer	Proprietary	SVHC Free	Halogen Free	RoHS	Level	Quantity	MC Status
	0160-5945	<a href="#">VJ0805Y103KXAMT</a>	Vishay		53	✓	✓	Full	4 Each	
	0160-5945	<a href="#">08055C103KAT2A</a>	AVX Corp		53	✓	✓	Full		
	1204-2225	<a href="#">3296W-1-500LF</a>	Bourns Inc		53		✓	Full	1 Each	
	1818-8791	<a href="#">AT28BV256-20TU</a>	ATMEL		53	✓	✓	Full	1 Each	
	1818-8991	<a href="#">XCF01SVOG20C</a>	XILINX		53	✓	✓	Full	1 Each	
	1819-0019	<a href="#">93LC66BT/SN</a>	MICROCHIP TECH		53	✓	✓	Full	1 Each	
	1820-0471	<a href="#">SN7406N</a>	TEXAS INSTRUMENTS		53		✓	Full	2 Each	
	1820-0669	<a href="#">FDV302P</a>	Fairchild Semi		53		✓	Full	1 Each	
	1820-0677	<a href="#">3213</a>	Heyco		53	✓	✓	Full	1 Each	
	1820-0680	<a href="#">IBT 1/2-150JLFLTR</a>	Intl Resistive		53		✓	Full	1 Each	
	1820-0681	<a href="#">MO1CTS2R510J</a>	KOA Speer Electronics	✓	53	✓	✓	Full	1 Each	
	1820-0685	<a href="#">LTC1151CSW#TRPBF</a>	Linear Technology		53	✓	✓	Full	1 Each	
	1820-0705	<a href="#">MM8030-2600B</a>	Murata		53	✓	✓	Full	1 Each	
	1820-0711	<a href="#">FTOH104ZF</a>	NEC Tokin		53		✓	Full	1 Each	
	1820-0797	<a href="#">AMIS30660CANH2RG</a>	ON Semiconductor		53	✓	✓	Full	1 Each	



# COMPLIANCE Management Module



## Material Content Part Analysis

Supplier Information	
Company Name:	FCI Electronics
Company Unique ID:	
Unique ID Authority:	
Mfr Item Number:	89047-102LF
Manufacturing Site:	FCI Electronics
Weight:	4696.1846 mg

Plating:	matte Sn
MSL Rating:	NA
Classification Temp:	
Max Time Within 5:	
Comment:	

And, look at this number!  
If there is no layer of Quality Control, who's going to ensure the data and the CAS numbers are correct and the balances add up? (this is one reason why you can't rely on your suppliers to enter the data on your behalf.)

### Query Lists

Custom Statement
Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH 53

EURoHS-0508 Statement	Response
Product(s) is unknown, no information is available	
Product(s) meets EU RoHS requirements without any exemptions	True
Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder "7b" exemption (other selected exemptions may apply)	False
Product(s) is obsolete, no information is available	
Product(s) does not meet EU RoHS requirements and is not under exemptions	False
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	False

### Homogeneous Materials

SubProduct	SubProduct Mass	Material	Material Mass	Level	Substance	CAS	Substance Mass	Concentration			
Contact	308.83 mg	Phosphor Bronze	299.195 mg	Supplier	Copper	7440-50-8	282.32 mg	94.359865638 %			
				Supplier	Iron	7439-89-6	0.299 mg	0.099934825 %			
				R	Lead	7439-92-1	0.15 mg	0.050134528 %			
				Supplier	Phosphorus	7723-14-0	0.568 mg	0.189842745 %			
				Supplier	Tin	7440-31-5	14.96 mg	5.00083558 %			
				Supplier	Zinc	7440-66-6	0.898 mg	0.300138706 %			
					Nickel Plating	5.93 mg	R	Nickel	7440-02-0	5.93 mg	100 %
					Gold Plating	3.273 mg	Supplier	Cobalt	7440-48-4	0.021 mg	0.641613199 %
							Supplier	Gold	7440-57-5	3.252 mg	99.358386801 %
					Matte Tin	0.432 mg	Supplier	Tin	7440-31-5	0.432 mg	100 %
Contact	357.601 mg	Phosphor Bronze	347.159 mg	Supplier	Copper	7440-50-8	327.579 mg	94.359933056 %			
				Supplier	Iron	7439-89-6	0.347 mg	0.0999542 %			



# COMPLIANCE Management Module

There are data providers that have centralized databases available to tactically warehouse the data and to produce roll up and reporting for your products. Consider this as a cost effective approach to explore.

## Dashboard

Selected BOM: Product BOM

Show Search/Filter

	Internal PN	Catalog PN	Manufacturer	Proprietary	SVHC Free	Halogen Free	RoHS	Level	Quantity	MC Status
	0160-5945	<a href="#">VJ0805Y103KXAMT</a>	Vishay		53	✓	✓	Full	4 Each	
	0160-5945	<a href="#">08055C103KAT2A</a>	AVX Corp		53	✓	✓	Full		
	1204-2225	<a href="#">3296W-1-500LF</a>	Bourns Inc		53		✓	Full	1 Each	
	1818-8791	<a href="#">AT28BV256-20TU</a>	ATMEL		53	✓	✓	Full	1 Each	
	1818-8991	<a href="#">XCF01SVOG20C</a>	XILINX		53	✓	✓	Full	1 Each	
	1819-0019	<a href="#">93LC66BT/SN</a>	MICROCHIP TECH		53	✓	✓	Full	1 Each	
	1820-0471	<a href="#">SN7406N</a>	TEXAS INSTRUMENTS		53		✓	Full	2 Each	
	1820-0669	<a href="#">FDV302P</a>	Fairchild Semi		53		✓	Full	1 Each	
	1820-0677	<a href="#">3213</a>	Heyco		53	✓	✓	Full	1 Each	
	1820-0680	<a href="#">IBT 1/2-150JLFLTR</a>	Intl Resistive		53		✓	Full	1 Each	
	1820-0681	<a href="#">MO1CTS2R510J</a>	KOA Speer Electronics	✓	53	✓	✓	Full	1 Each	
	1820-0685	<a href="#">LTC1151CSW#TRPBF</a>	Linear Technology		53	✓	✓	Full	1 Each	
	1820-0705	<a href="#">MM8030-2600B</a>	Murata		53	✓	✓	Full	1 Each	
	1820-0711	<a href="#">FTOH104ZF</a>	NEC Tokin		53		✓	Full	1 Each	
	1820-0797	<a href="#">AMIS30660CANH2RG</a>	ON Semiconductor		53	✓	✓	Full	1 Each	



# COMPLIANCE Management Module

There is no such things as 100% full disclosure data. Certain suppliers refuse to disclose all materials. They are published as "proprietary" as marked here.

## Dashboard

Show Search/Filter

	Internal PN	Catalog PN	Manufacturer	Proprietar	SVHC Free	Halogen Free	RoHS	Level	Quantity	MC Status
	1820-0681	<a href="#">MO1CT52R510J</a>	KOA Speer Electronics	✓	53	✓	✓	Full	1 Each	
	1820-0815	<a href="#">SN74LVC1G58DCKR</a>	Texas Instruments	✓	53	✓	✓	Full	1 Each	
	1820-0817	<a href="#">YTZ420-VZ</a>	Yamaha Corp Of America		53		✓	Full	1 Each	
	1820-0813	<a href="#">74LCX138MTR</a>	ST Micro		53		✓	Full	1 Each	
	1818-8991	<a href="#">XCF015VOG20C</a>	XILINX		53	✓	✓	Full	1 Each	
	0160-5947	<a href="#">C2012X7R1H102K</a>	TDK Corp				✓	J.I.G.	1 Each	
	1820-0818	<a href="#">400-50010-0001</a>	Young Sam Industrial Co		53	✓	✓	Full	1 Each	
	1212-0396	<a href="#">MT47H16M16BG-5E:B</a>	Micron Technology		46		✓	J.I.G.	1 Each	
	1820-0471	<a href="#">SN7406N</a>	TEXAS INSTRUMENTS		53		✓	Full	1 Each	
	0160-5945	<a href="#">VJ0805Y103KXAMT</a>	Vishay		53	✓	✓	Full	1 Each	
	0160-5945	<a href="#">08055C103KAT2A</a>	AVX Corp		53	✓	✓	Full		
	1818-8353	<a href="#">M24C64WMN6TP</a>	ST MICRO		38		✓	Full	1 Each	
	1204-2121	<a href="#">AD734ANZ</a>	ANALOG DEVICES		38		✓	Full	1 Each	
	1820-0705	<a href="#">MM8030-2600B</a>	Murata		53	✓	✓	Full	1 Each	
	1820-0711	<a href="#">FT0H104ZF</a>	NEC Tokin		53		✓	Full	1 Each	



**MO1/2C Series**

Type	MO1/2	
gross unit value	444.000	
average content	(mg)weight	(%)content
Resistor body	116.506	26.24%
Cap	100.522	22.64%
Lead Wire	183.994	41.44%
Coating	41.690	9.39%
Marking	1.289	0.29%
	Type	MO1/2

material	Chemical substance	Chemical substance	average content	(mg)weight	(%)content
Resistor body	Al2O3	1344-28-1	67.74%	78.922	17.77%
	SiO2	14808-60-7	19.92%	23.212	5.23%
	SnO2	18282-10-5	0.36%	0.417	0.09%
	Sb2O4	1332-81-6	0.02%	0.023	0.01%
	NiO	7313-99-1	0.00%	0.000	0.00%
	Misc	Proprietary	11.95%	14.000	3.14%
Cap	Fe	7439-89-6	97.00%	107.000	21.98%
	Cu	7440-50-8	0.00%	1.106	0.25%
	Sn	7440-31-5	0.00%	1.106	0.25%
	Mn	7439-96-5	0.50%	0.503	0.11%
	Misc	Proprietary	0.22%	0.221	0.05%
Lead Wire	Cu	7440-50-8	97.00%	178.474	40.20%
	Sn	7440-31-5	3.00%	5.520	1.24%
Coating	Silicon Resin	9009-54-5	9.69%	4.040	0.91%
	TiO2	13463-67-7	8.59%	3.579	0.81%
	SiO2	14808-60-7	79.56%	33.169	7.47%
	Misc	Proprietary	2.16%	0.902	0.20%
Marking	Epoxy Resin	25068-38-6	23.12%	0.298	0.07%
	Melamine Resin	82115-62-6	22.10%	0.285	0.06%
	TiO2	13463-67-7	11.22%	0.145	0.03%
	Fe2O3	1309-37-1	0.42%	0.005	0.00%
	Cr2O3	7440-47-3	0.92%	0.012	0.00%
	Misc	Proprietary	42.22%	0.544	0.12%

Any part with a proprietary substance will need an associated REACH declaration document stating that there are no current SVHC's present. These will need to be collected and re-collected. This also may become necessary for other regulations such as Conflict Minerals.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
	Q130						Proprietary														
1	BOMName: Internal P/ Catalog P; Manufactu OriginalP/ OriginalMFG						CAS	ComponentId	Component	ComponentMass	CUoM	MaterialId	Material	MaterialMMUoM	SubstanceId	Substance	Substance Amount	SUoM	Subst		
120	Product B	0160-5945	C0805C10	Kemet Ele	C0805C10	Kemet Electronics	7440-02-0	407187	Body	16.053000000000	mg	462521	Ceramic	16.053000000000	1616000	Nickel	1.4760000000000	mg	9.194		
121	Product B	0160-5945	C0805C10	Kemet Ele	C0805C10	Kemet Electronics		407187	Body	16.053000000000	mg	462521	Ceramic	16.053000000000	1616001	Miscellaneous and Pr	0.1380000000000	mg	0.859		
122	Product B	0160-5945	C0805C10	Kemet Ele	C0805C10	Kemet Electronics	7440-50-8	407188	Termination	2.9170000000000	mg	462522	Copper Alloy	2.3520000000000	1616002	Copper	2.1270000000000	mg	90.43		
123	Product B	0160-5945	C0805C10	Kemet Ele	C0805C10	Kemet Electronics		407188	Termination	2.9170000000000	mg	462522	Copper Alloy	2.3520000000000	1616052	Miscellaneous and Pr	0.2250000000000	mg	9.566		
124	Product B	0160-5945	C0805C10	Kemet Ele	C0805C10	Kemet Electronics	7440-02-0	407188	Termination	2.9170000000000	mg	462535	Nickel under 0.1380	0.1380000000000	1616050	Nickel	0.1380000000000	mg	100.0		
125	Product B	0160-5945	C0805C10	Kemet Ele	C0805C10	Kemet Electronics	7440-31-5	407188	Termination	2.9170000000000	mg	462536	Matte Tin	0.4200000000000	1616051	Tin	0.4200000000000	mg	100.0		
126	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	7439-89-6	136493	Cap	145.599900000000	mg	156027	Metal Alloy	145.599900000000	777185	Iron	141.3485000000000	mg	97.08		
127	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	7439-96-5	136493	Cap	145.599900000000	mg	156027	Metal Alloy	145.599900000000	777188	Manganese	0.7280000000000	mg	0.500		
128	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	7440-31-5	136493	Cap	145.599900000000	mg	156027	Metal Alloy	145.599900000000	777187	Tin	1.6016000000000	mg	1.100		
129	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	7440-50-8	136493	Cap	145.599900000000	mg	156027	Metal Alloy	145.599900000000	777186	Copper	1.6015000000000	mg	1.099		
130	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136493	Cap	145.599900000000	mg	156027	Metal Alloy	145.599900000000	777189	Proprietary	0.3203000000000	mg	0.219		
131	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	13463-67-7	136495	Coating	72.6529000000000	mg	156029	E	72.6529000000000	777194	Titanium dioxide	6.2377000000000	mg	8.585		
132	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	14808-60-7	136495	Coating	72.6529000000000	mg	156029	E	72.6529000000000	777195	Silicon dioxide	57.8033000000000	mg	79.56		
133	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	9009-54-5	136495	Coating	72.6529000000000	mg	156029	E	72.6529000000000	777193	Polyurethane	7.0406000000000	mg	9.690		
134	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136495	Coating	72.6529000000000	mg	156029	E	72.6529000000000	777196	Proprietary	1.5713000000000	mg	2.162		
135	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	7440-31-5	136494	Lead wire	240.0996000000000	mg	156029	E	240.0996000000000	777191	Tin	7.2030000000000	mg	3.000		
136	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	7440-50-8	136494	Lead wire	240.0996000000000	mg	156029	E	240.0996000000000	777190	Copper	232.8966000000000	mg	96.99		
137	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	1308-38-9	136496	Marking	2.2400000000000	mg	22400000		2.2400000000000	777201	Chromium oxide	0.0207000000000	mg	0.924		
138	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	1317-61-9	136496	Marking	2.2400000000000	mg	22400000		2.2400000000000	777200	Iron oxide	0.0932000000000	mg	4.160		
139	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	13463-67-7	136496	Marking	2.2400000000000	mg	22400000		2.2400000000000	777199	Titanium dioxide	0.2521000000000	mg	11.25		
140	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	25068-38-6	136496	Marking	2.2400000000000	mg	22400000		2.2400000000000	777197	Bisphenol A epichloro	0.5185000000000	mg	23.14		
141	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	82115-62-6	136496	Marking	2.2400000000000	mg	22400000		2.2400000000000	777198	Melamine Resin	0.4068000000000	mg	18.16		
142	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136496	Marking	2.2400000000000	mg	22400000		2.2400000000000	777202	Proprietary	0.9487000000000	mg	42.35		
143	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	1313-99-1	136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	777183	Nickel (II) oxide	0.0007000000000	mg	0.000		
144	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	1332-81-6	136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	777182	Diantimony tetroxide	0.3500000000000	mg	0.146		
145	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	1344-28-1	136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	777179	Alumina	162.3160000000000	mg	67.75		
146	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	14808-60-7	136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	777180	Silicon dioxide	47.7000000000000	mg	19.91		
147	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics	18282-10-5	136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	777181	Tin dioxide	0.5580000000000	mg	0.232		
148	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	777184	Proprietary	28.6440000000000	mg	11.95		
149	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647361	Silicon	6.1960000000000	mg	100.0		
150	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647373	Gold	0.5370000000000	mg	100.0		
151	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647368	Silver	1.5130000000000	mg	75.01		
152	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647369	Resin	0.5040000000000	mg	24.98		
153	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647370	Resin	9.8160000000000	mg	10.29		
154	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647371	Silica Fused	85.2940000000000	mg	89.49		
155	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647372	Carbon Black	0.1910000000000	mg	0.200		
156	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647366	Tin	4.7713680000000	mg	100.0		
157	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647367	Silver	1.1320000000000	mg	100.0		
158	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647362	Copper	1.38.0210000000000	mg	97.50		
159	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647363	Iron	3.3970000000000	mg	2.399		
160	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647364	Phosphorus	0.0420000000000	mg	0.029		
161	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	1647365	Zinc	0.0990000000000	mg	0.069		
162	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	785444	Alumina	1246.0000000000000	mg	100.0		
163	Product B	1820-0681	MO1CT52	KOA Spee	MO1CT52	KOA Speer Electronics		136492	Resistive bod	239.5687000000000	mg	23956870		239.5687000000000	785446	Aluminum	0.2800000000000	mg	100.0		

The process or service you adopt should incorporate a method such as this where a unique ID is associated to every data element to allow other software systems to catalog proprietary substances that have no CAS number without error.

Some have suggested a "dummy" CAS number like 99999, however this makes all non CAS # elements the same limiting reporting options.

General Assembly Level Product Information --Section I										
Part Number	Package	Package Total Mass in grams (g).	MSL	Reflow temp	Time @ peak	# of cycles	Base alloy	Plating (finish type)	Post Process	
89094-202LF	Connector	18.89743742	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Copper alloy	Nickel	Not Applicable	
Substance detail for Components - Section II										
Component Description	Material Name	Substance Name	Substance CAS Number	Substance Weight in grams						
Contact	Phosphor Bronze	Copper	7440-50-8	1.12925						
		Iron	7439-89-6	0.001197						
		Lead	7439-92-1	0.000598						
		Phosphorous	7723-14-0	0.002274						
		Tin	7440-31-5	0.059837						
		Zinc	7440-66-6	0.00359						
		Nickel Plating	Nickel	7440-02-0	0.023718					
		Gold Plating	Gold	7440-57-5	0.039106					
			Cobalt	7440-48-4	0.000256					
			Tin Plating	Tin	7440-31-5	0.00164				
Contact	Phosphor Bronze	Copper	7440-50-8	1.310329						
		Iron	7439-89-6	0.001389						
		Lead	7439-92-1	0.000598						
		Phosphorous	7723-14-0	0.002274						
		Tin	7440-31-5	0.069432						
		Zinc	7440-66-6	0.004166						
		Nickel Plating	Nickel	7440-02-0	0.026948					
		Gold Plating	Gold	7440-57-5	0.039219					
			Cobalt	7440-48-4	0.000257					
			Tin Plating	Tin	7440-31-5	0.001748				
Contact	Phosphor Bronze	Copper	7440-50-8	1.360981						
		Iron	7439-89-6	0.001442						
		Lead	7439-92-1	0.000721						
		Phosphorous	7723-14-0	0.00274						
		Tin	7440-31-5	0.072116						
		Zinc	7440-66-6	0.004327						
		Nickel Plating	Nickel	7440-02-0	0.027961					
		Gold Plating	Gold	7440-57-5	0.039191					
			Cobalt	7440-48-4	0.000256					
			Tin Plating	Tin	7440-31-5	0.001663				
Contact	Phosphor Bronze	Copper	7440-50-8	1.434561						
		Iron	7439-89-6	0.00152						
		Lead	7439-92-1	0.00076						
		Phosphorous	7723-14-0	0.002889						
		Tin	7440-31-5	0.076015						

You will also find duplicate names embedded in the data. How are you going to handle those?

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD		
1	BOMName	Internal P/ Catalog P/ Manufactu	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN	Original P/ OriginalIPN										
2	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc	68037-59-2	345128	Adhesive	30.0734001mg	392439	Epoxy Resin	30.0734000000000	1424441	Methylhydrosiloxane-dimethylsiloxane copolymer	0.150400001mg	0.500																
3	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc	1185-55-3	345128	Adhesive	30.0734001mg	392439	Epoxy Resin	30.0734000000000	1424439	methyltrimethoxysilane	22.1340001mg	73.59																
4	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		345128	Adhesive	30.0734001mg	392439	Epoxy Resin	30.0734000000000	1424443	Non-Hazardous Substance	7.21760001mg	23.99																
5	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		345128	Adhesive	30.0734001mg	392439	Epoxy Resin	30.0734000000000	1424440	Proprietary	0.54130001mg	1.799																
6	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		345128	Adhesive	30.0734001mg	392439	Epoxy Resin	30.0734000000000	1424442	Proprietary	0.03010001mg	0.100																
7	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc	1344-28-1	345132	Capacitor	60.1270001mg	392443	Ceramic	60.1270000000000	1424462	Alumina	0.01440001mg	0.023																
8	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		345132	Capacitor	60.1270001mg	392443	Ceramic	60.1270000000000	1424468	Anatase Titanium dioxide	16.2827001mg	27.08																
9	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		345132	Capacitor	60.1270001mg	392443	Ceramic	60.1270000000000	1424473	Antimony trioxide	0.04210001mg	0.070																
10	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		345132	Capacitor	60.1270001mg	392443	Ceramic	60.1270000000000	1424463	Barium oxide	32.4476001mg	53.96																
11	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		216016	Clip	2406.00001mg	250012	Stainless Steel	2406.0000000000000	1021711	Chromium	457.140001mg	19.00																
12	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		216016	Clip	2406.00001mg	250012	Stainless Steel	2406.0000000000000	1021710	Iron	1726.30501mg	71.75																
13	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		216016	Clip	2406.00001mg	250012	Stainless Steel	2406.0000000000000	1021712	Nickel	222.555001mg	9.250																
14	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183800	Contact	308.830001mg	183800	Gold Plating	3.273000000000000	850085	Cobalt	0.02100001mg	0.641																
15	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183804	Contact	357.601001mg	183804	Gold Plating	3.290000000000000	850095	Cobalt	0.02100001mg	0.636																
16	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183808	Contact	371.243001mg	183808	Gold Plating	3.267000000000000	850105	Cobalt	0.02100001mg	0.642																
17	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183812	Contact	391.166001mg	183812	Gold Plating	3.285000000000000	850115	Cobalt	0.02100001mg	0.639																
18	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183816	Contact	402.785001mg	183816	Gold Plating	3.302000000000000	850125	Cobalt	0.02100001mg	0.639																
19	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183798	Contact	308.830001mg	183798	Phosphor Bron	299.1950000000000	850077	Copper	282.320001mg	94.35																
20	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183802	Contact	357.601001mg	183802	Phosphor Bron	347.1590000000000	850087	Copper	327.579001mg	94.36																
21	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183806	Contact	371.243001mg	183806	Phosphor Bron	360.5880000000000	850097	Copper	340.251001mg	94.36																
22	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183810	Contact	391.166001mg	183810	Phosphor Bron	380.0970000000000	850107	Copper	358.660001mg	94.36																
23	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183814	Contact	402.785001mg	183814	Phosphor Bron	392.8380000000000	850117	Copper	370.682001mg	94.36																
24	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183800	Contact	308.830001mg	183800	Gold Plating	3.273000000000000	850084	Gold	3.25200001mg	99.36																
25	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183804	Contact	357.601001mg	183804	Gold Plating	3.290000000000000	850094	Gold	3.26900001mg	99.36																
26	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183808	Contact	371.243001mg	183808	Gold Plating	3.267000000000000	850104	Gold	3.24600001mg	99.36																
27	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183812	Contact	391.166001mg	183812	Gold Plating	3.285000000000000	850114	Gold	3.26400001mg	99.36																
28	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183816	Contact	402.785001mg	183816	Gold Plating	3.302000000000000	850124	Gold	3.28100001mg	99.36																
29	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183798	Contact	308.830001mg	183798	Phosphor Bron	299.1950000000000	850078	Iron	0.29900001mg	0.099																
30	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183802	Contact	357.601001mg	183802	Phosphor Bron	347.1590000000000	850088	Iron	0.34700001mg	0.099																
31	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183806	Contact	371.243001mg	183806	Phosphor Bron	360.5880000000000	850098	Iron	0.36100001mg	0.100																
32	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183810	Contact	391.166001mg	183810	Phosphor Bron	380.0970000000000	850108	Iron	0.38000001mg	0.099																
33	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183814	Contact	402.785001mg	183814	Phosphor Bron	392.8380000000000	850118	Iron	0.39300001mg	0.100																
34	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183798	Contact	308.830001mg	183798	Phosphor Bron	299.1950000000000	850079	Lead	0.15000001mg	0.050																
35	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183802	Contact	357.601001mg	183802	Phosphor Bron	347.1590000000000	850089	Lead	0.17400001mg	0.050																
36	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183806	Contact	371.243001mg	183806	Phosphor Bron	360.5880000000000	850099	Lead	0.18000001mg	0.049																
37	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183810	Contact	391.166001mg	183810	Phosphor Bron	380.0970000000000	850109	Lead	0.19000001mg	0.049																
38	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183814	Contact	402.785001mg	183814	Phosphor Bron	392.8380000000000	850119	Lead	0.19600001mg	0.049																
39	ALU Sam	24-0058-01 S4804CBI	Applied M S4804CBI	amcc		183798	Contact	308.830001mg	183798	Nickel Plating	5.930000000000000	850083	Nickel	5.93000001mg	100.0																

Similar to the blank CAS number/proprietary substances, you will need to incorporate a unique ID system such as this.

# If it's a requirement. Why isn't everybody doing it?

When you told them about the need for it....  
“You are not too busy go do it yourself” – your management.

**Real World Justification: Executives won't do it unless it's a risk to sales. Even if it has been mandated. They would rather wait and react to a RoHS or REACH audit and deal with it then.**

# So, How are you going to do it?

A study was conducted to determine what internal resources would be needed to accurately collect, QA, maintain and produce product level compliance reports on ~5000 components. Here is a list of the findings:

- 3-5 technicians to collect and transfer the data from manufacturers published documents
- 2 component engineers to review and QA the physical characteristics of the data
- 2 Environmental compliance engineers to review, QA and manage the data
- Database software
- IT implementation resources
- Management

**You will need a minimum of 7 dedicated people to manage 5000 parts!!  
Or, outsource to a dedicated service with solid quality control.**

# The Centralized Public Database

A centralized, publicly available database would be ideal:

- if there were a method of ensuring quality of data served,
- however getting the industry to adopt a standard has not been possible.

There are opt-in web services that require:

- the manufacturer to normalize and upload data to a portal
- however there is no quality control and
- no guarantee that all suppliers will participate

**.....leaving the need, once again for dedicated internal resources to provide specialized QA/CE collection and maintenance personnel or a dedicated 3<sup>rd</sup> party service. You can't leave it to your vendors! You own it.**

# So, how are you going to do it?

- You own the need to report compliance to avoid the risk to sales.
- You own the need for quality and accuracy.
- If, the hardest part is collecting and maintaining the data?
- Build a process for reporting to your customer, but find a dedicated resources for getting and maintaining the data. Have them make sure it's current and accurate so all you have to do.....is report.
- It will be the most effective way, the least expensive, AND, management will thank you for it!

# Conclusion:

There are many companies that have successfully implemented Environmental Compliance Reporting. Companies like IBM, Emerson, National Instruments, etc.

These companies realize that managing and maintaining the data is not for them. Call them and ask. They'll tell you.

# Mastering a Moving Target