Motorola Green Purchasing

W18 and Material Declaration Population

Introduction and Training

Why is Motorola Mobility Moving to WPA?

Motorola Mobility is making this change to:

- Upgrade our aging compliance solution to most current version
- Facilitate faster incorporation of new compliance regulations
- Move to standard collection format for material declarations - IPC 1752A
- Enable suppliers to apply material declaration exemptions

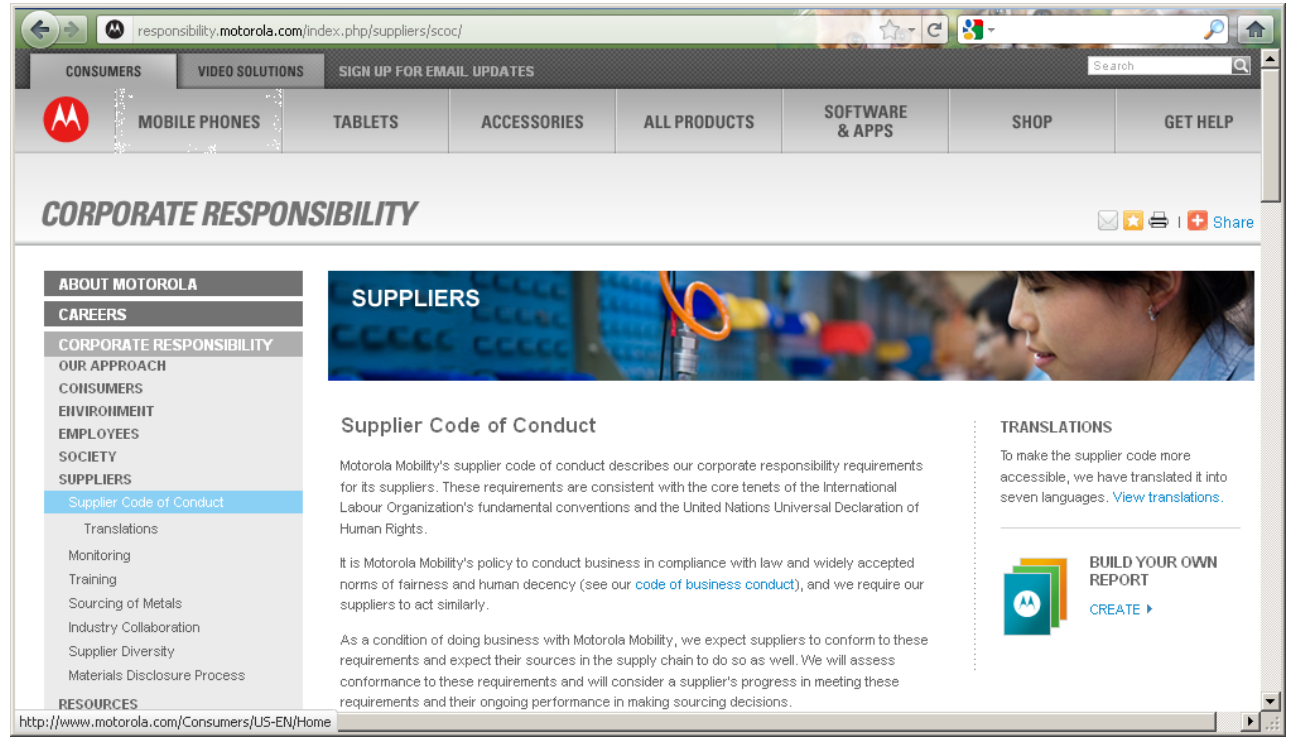
What does this mean for you?

- Continue to provide material content data in the same format (CXS) until informed to change.
- Review all training materials, new tools, and communications through this transition.
- Be prepared for an official announcement of this implementation in November 2011
- Until you are notified that the new process has been implemented, continue submitting Material Declaration files in CXS format

Global Corporate Citizenship Program (EHS)

- Expectation for supplier of goods and services
- "As a condition of doing business with Motorola Mobility, Suppliers will conform to these expectations and endeavor to have their sources in the supply chain do so as well"

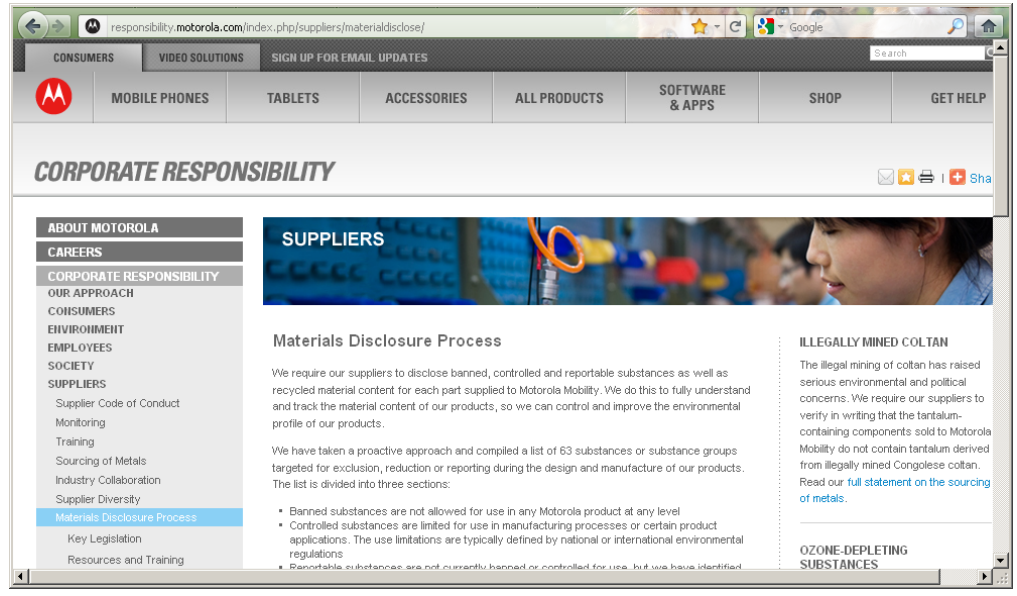
- Outline of program
  - Compliance
  - Anti-Corruption
  - Unfair Business Practices
  - Anti-Discrimination
  - Forced Labor
  - Child Labor
  - Freedom of Association
  - Working Hours and Wages
  - Safe and Healthy Working Conditions
  - Environmental Sustainability



- http://www.motorola.com/suppliers/materialsdisclosure

Environmental Sustainability

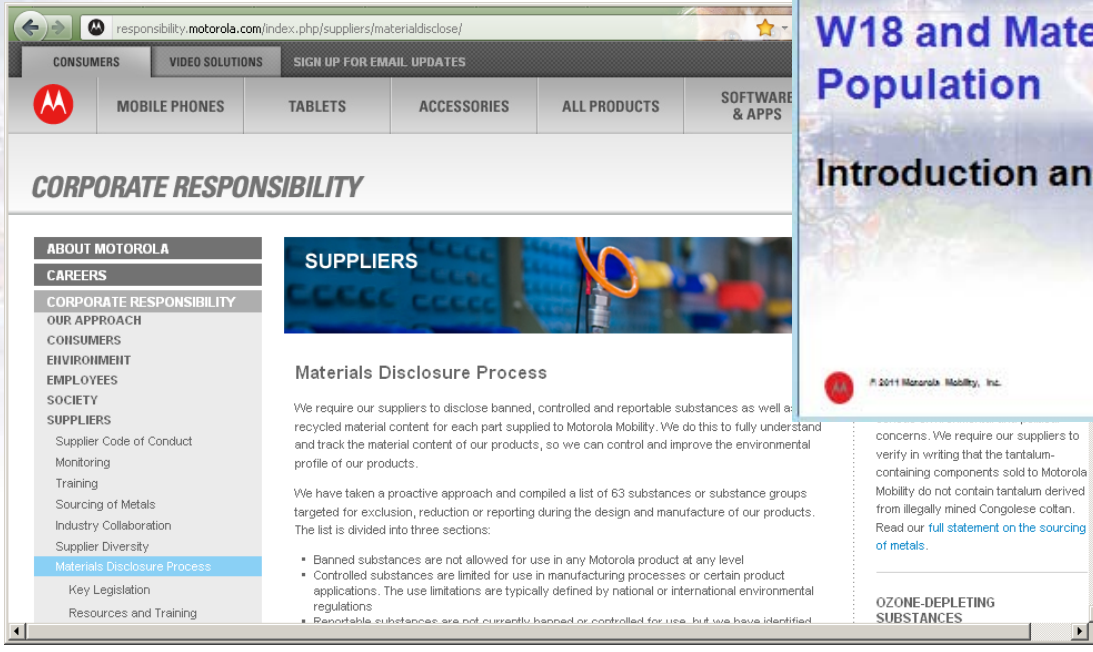
- Environmental Management System in accordance with ISO 14001
- Material Disclosure
  - Suppliers must provide Material Disclosure outlined in the Controlled and Reportable Materials Disclosure Process
- Ozone Depleting Substances
  - Eliminate products or components that contain, or that are manufactured with a process that uses any Class 1 ozone-depleting substance

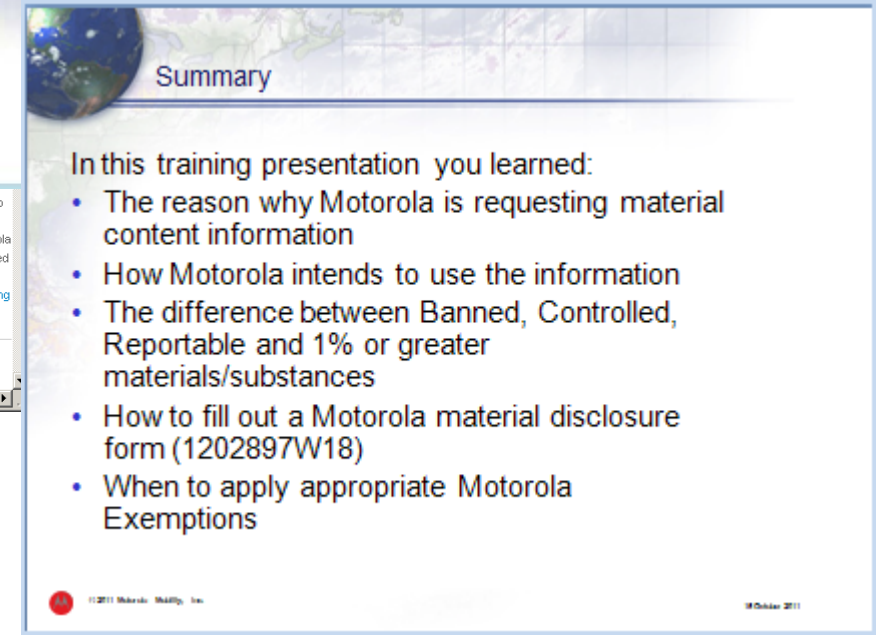


Materials Disclosure Overview

- Motorola Mobility Requirements
  - Fully disclose material and substances of concern of each part
  - Reporting in accordance with specification 1202897W18 – Controlled and Reportable Material Disclosure (“the W18”)
  - Compliance is required and where a non-compliance issue is identified, a resolution plan is essential
  - A complete W18 Disclosure is required to qualify parts supplied to Motorola Mobility
- 1202897W18 Motorola Controlled and Reportable Materials Disclosure Specification
  - The 1202897W18 Specification sets forth materials and substances that must be reported to Motorola Mobility on a general basis
- W18 Electronic Reporting Tools
  - The primary tool for reporting W18 disclosures is the Motorola Mobility IPC Creator. For Class A non-Homogeneous reporting, we recommend the Motorola modified Scriba tool

Supplier Training Programs





http://responsibility.motorola.com/index.php/suppliers/materialdisclose/resourcestraining/

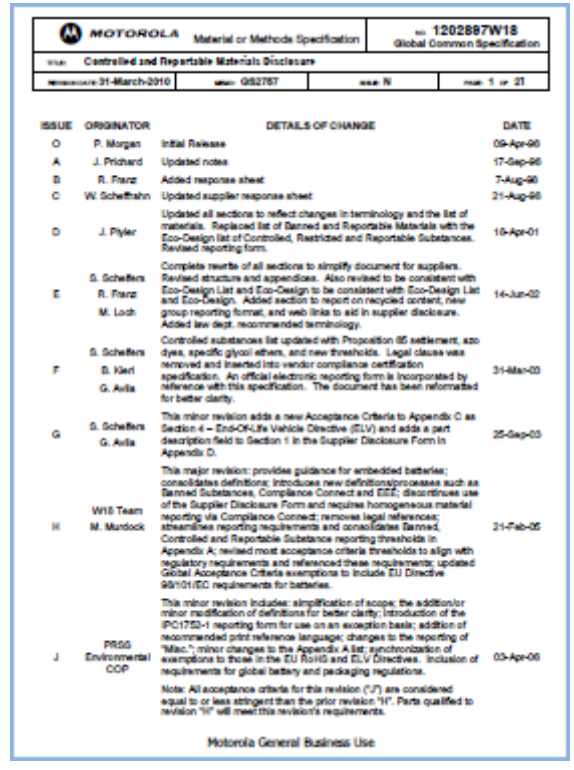
Supplier W18 Training

Material Declaration (W18)

Understanding Motorola Mobility's

Material Declaration Specification and

Using it Effectively



MOTOROLA Material or Methods Specification — no. 1202897W18 Global Common Specification

title: Controlled and Reportable Materials Disclosure

reference date: 31-March-2010 | spec: GS2757 | issue: N | page: 1 of 21

ISSUE	ORIGINATOR	DETAILS OF CHANGE	DATE
O	P. Morgan	Initial Release	09-Apr-96
A	J. Prichard	Updated notes	17-Sep-96
B	R. Franz	Added response sheet	7-Aug-98
C	W. Scheffrahn	Updated supplier response sheet	21-Aug-98
D	J. Plyler	Updated all sections to reflect changes in terminology and the list of materials. Replaced list of Banned and Reportable Materials with the Eco-Design list of Controlled, Restricted and Reportable Substances. Revised reporting form.	18-Apr-01
E	S. Scheffers R. Franz M. Loch	Complete rewrite of all sections to simplify document for suppliers. Revised structure and appendices. Also revised to be consistent with Eco-Design List and Eco-Design to be consistent with Eco-Design List and Eco-Design. Added section to report on recycled content, new group reporting format, and web links to aid in supplier disclosure. Added law dept. recommended terminology.	14-Jun-02
F	S. Scheffers B. Klerl G. Avila	Controlled substances list updated with Proposition 65 settlement, azo dyes, specific glycol ethers, and new thresholds. Legal clause was removed and inserted into vendor compliance certification specification. An official electronic reporting form is incorporated by reference with this specification. The document has been reformatted for better clarity.	31-Mar-03
G	S. Scheffers G. Avila	This minor revision adds a new Acceptance Criteria to Appendix C as Section 4 – End-Of-Life Vehicle Directive (ELV) and adds a part description field to Section 1 in the Supplier Disclosure Form in Appendix D.	25-Sep-03
H	W18 Team M. Murdock	This major revision: provides guidance for embedded batteries; consolidates definitions; introduces new definitions/processes such as Banned Substances, Compliance Connect and EEE; discontinues use of the Supplier Disclosure Form and requires homogeneous material reporting via Compliance Connect; removes legal references; streamlines reporting requirements and consolidates Banned, Controlled and Reportable Substance reporting thresholds in Appendix A; revised most acceptance criteria thresholds to align with regulatory requirements and referenced these requirements; updated Global Acceptance Criteria exemptions to include EU Directive 98/101/EC requirements for batteries.	21-Feb-05
J	PRSG Environmental COP	This minor revision includes: simplification of scope; the addition/or minor modification of definitions for better clarity; introduction of the IPC1752-1 reporting form for use on an exception basis; addition of recommended print reference language; changes to the reporting of "Misc."; minor changes to the Appendix A list; synchronization of exemptions to those in the EU RoHS and ELV Directives. Inclusion of requirements for global battery and packaging regulations. Note: All acceptance criteria for this revision ("J") are considered equal to or less stringent than the prior revision "H". Parts qualified to revision "H" will meet this revision's requirements.	03-Apr-06

Motorola General Business Use

- Key Message
- Homogeneous Material
- Example

Key Message of W18 to our Suppliers

- Motorola Mobility requires Suppliers to report full material data at the homogenous material level and eliminate banned substances from all products, components and materials sold to Motorola
- Additionally, Controlled Substances need to be evaluated for compliance with the W18 specification. Note exemptions may apply
- Reportable Substances are not currently banned or controlled for use but a ban or voluntary phase-out is likely or they have an impact on the end-of-life management of the finished product. These must be declared
- Please refer to the most recent revision of the W18 Specification for the current list of all Banned, Controlled and Reportable Substances

W18 Scope

The W18 Controlled & Reportable Material Disclosure Specification:

- The W18 Controlled & Reportable Material Disclosure Specification:
  - Defines materials and substances that must be reported to Motorola Mobility
  - Defines the process for reporting and returning the information to Motorola
  - Contains the list of substances that Motorola has targeted for exclusion, reduction or reporting (Appendix A)
  - Sets Part Acceptance Criteria based on global legislation (Appendix C)

Supplier's Responsibilities

- Comply with the reporting requirements of the W18 for all parts and assemblies sold to Motorola
- Report Controlled and Reportable substances using the Motorola Mobility IPC Creator or a comparable tool
- Cascade the requirements in this specification to its sub-tier suppliers
  - Sub-tier supplier data input is a must for complete material and substance data determination
- Report any change to the material content by resubmitting an updated report
- Completion of the report and submission to Motorola Mobility constitutes a testament that all the information is true and correct to the best of the supplier's knowledge

Extent of Disclosure

- For every service and production part shipped to Motorola, the following information must be reported:
  - Supplier Information
  - Complete Product Structure (all levels) or rolled up
  - 100% material composition disclosure
- Disclosure of controlled or reportable substances per Motorola's 1202897W18 Specification
- Non-listed substances can be reported as "MISC., NOT TO DECLARE"
  - Suppliers are required to provide supporting information if the %MISC exceeds 10% in a single material
- Disclosure of "Trade Secret" chemical substances is NOT required, unless these substances are listed as Banned, Controlled or Reportable, per Motorola Mobility's 1202897W18 Specification

Part Acceptance Criteria

- Motorola will not accept parts that do not meet the acceptance criteria (Appendix C)
  - Mobile Device parts are required to meet RoHS + Section 5 + Section Surface*
  - Home parts are required to meet RoHS + Section 2 + Section Surface
  - EcoMoto parts are required to meet RoHS + Section 1 + Section Surface
- This applies to parts that reference this specification and the corresponding acceptance criteria of this specification
- Reporting per this specification is always required, whether or not the acceptance criteria is met

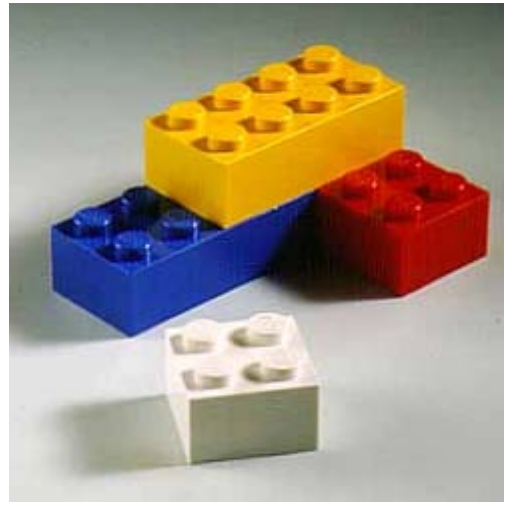
* The Surface Specification will be introduced with the release of Rev B of the W18
In Rev A, both Surface and RoHS are included in Sections 1, 2 and 5

How to get Material Data

- **Engineering Calculation**
  - Calculation based on the data from subsupplier (source the supplier the receives their part or raw material from) or raw material manufacturer
- **Lab Analysis**
  - Analysis Method：
    When a lab analysis is used to determine the composition of a homogeneous material, it should be performed per international standards, such as those currently under development by the IEC.
  - What to analyze:
    - W18 banned and controlled substance list
    - RoHS six substances analysis is not enough

Environmental Technical Concepts

- **Materials Background**



Definition of Ceramic

- *A non-metallic crystalline material created by the process of heating*
- *Metallic elements (i.e. Lead) are added to create desired properties*

Definition of Glass

- *An amorphous material usually created by the rapid cooling from molten state*
- *Usually the word ‘glass’ refers to a specific type: amorphous silica*

Definition of Alloy

- A homogeneous mixture of two or more elements with metallic properties created to provide specific material properties

What are Homogeneous Materials?

What are Homogeneous Materials

Definition:

- A material, as defined by the European Union Technical Adaptation Committee, that cannot be mechanically disjointed into different materials; homogenous materials are materials “of uniform composition throughout.” Ceramics, glass, metals, alloys, paper, board, resins, coatings are provided as examples. The term “mechanically disjointed” would mean “that the materials can be, in principle, separated by mechanical actions such as for example: unscrewing, cutting, crushing, grinding and abrasive processes.”

- Motorola Requirement: the reporting of all inks, adhesives, plantings, and paints as homogeneous materials, regardless of the medium onto which they are printed

- That real life example has below homogeneous materials:
- Bottle cap
- Bottle cap plating
- Bottle Glass
- Label paper
- Glue/adhesive
- Yellow ink
- Green ink
- ……

Example: Glass is Homogeneous Material

- Bottle of glass is supplied to Motorola Mobility
- W18 must be filled out for glass bottle
- Determine what substances go into glass
  - Siliciumdioxide (SiO_2) 73%
  - Calciumoxide (CaO) 10%
  - Natriumoxide (Na_2O) 14%
  - Aluminiumoxide (Al_2O_3) 2%
  - Leadoxide (PbO) 1%
- Use engineering calculation or chemical assay in labs

Reporting & Acceptance

- Report substances above threshold limit (e.g. 0,01% = 100ppm)
- Banned substances
  - No banned substances
- Controlled substances
  - PbO: 1% (=10,000ppm)
- Reportable substances
  - SiO_2: 73%
  - Na_2O: 14%
  - CaO: 10%
  - Al_2O_3: 2%

- Part acceptance criteria
  - Appendix C of W18
- Example
  - Lead and compounds
  - Cadmium and compounds
  - Etc
- Limits:
  - Pb: 1000ppm
  - Cd: 100ppm

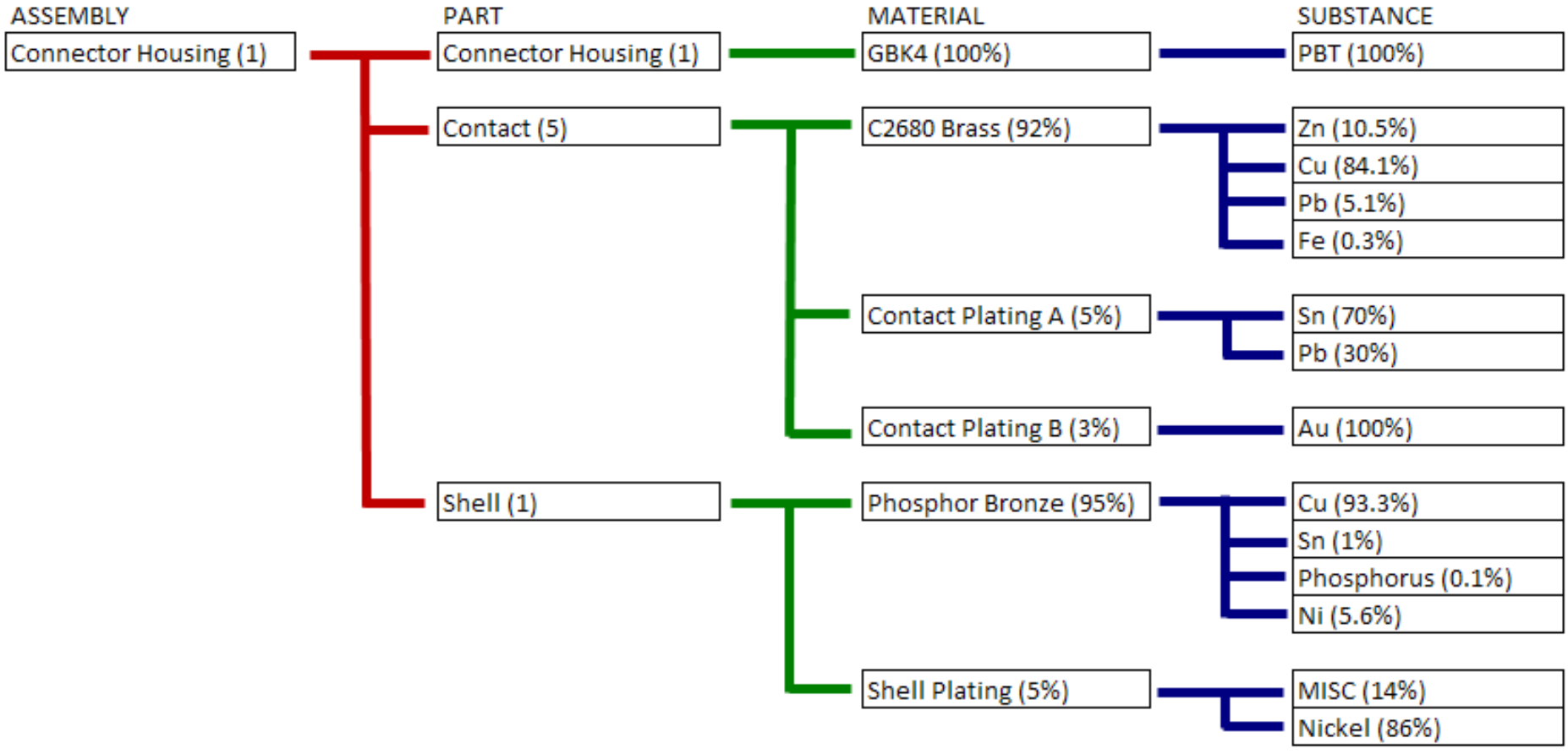
Bottle does not meet acceptance criteria of Motorola Mobility

Need to get rid of PbO!

Motorola Mobility IPC Creator Breakdown of a Connector

- The purpose of this is to show the proper W18 breakdown of a hypothetical connector
- It diagrams the links between the sections of the main areas of the IPC Creator form
- It also shows an example of each section

Connector Breakdown

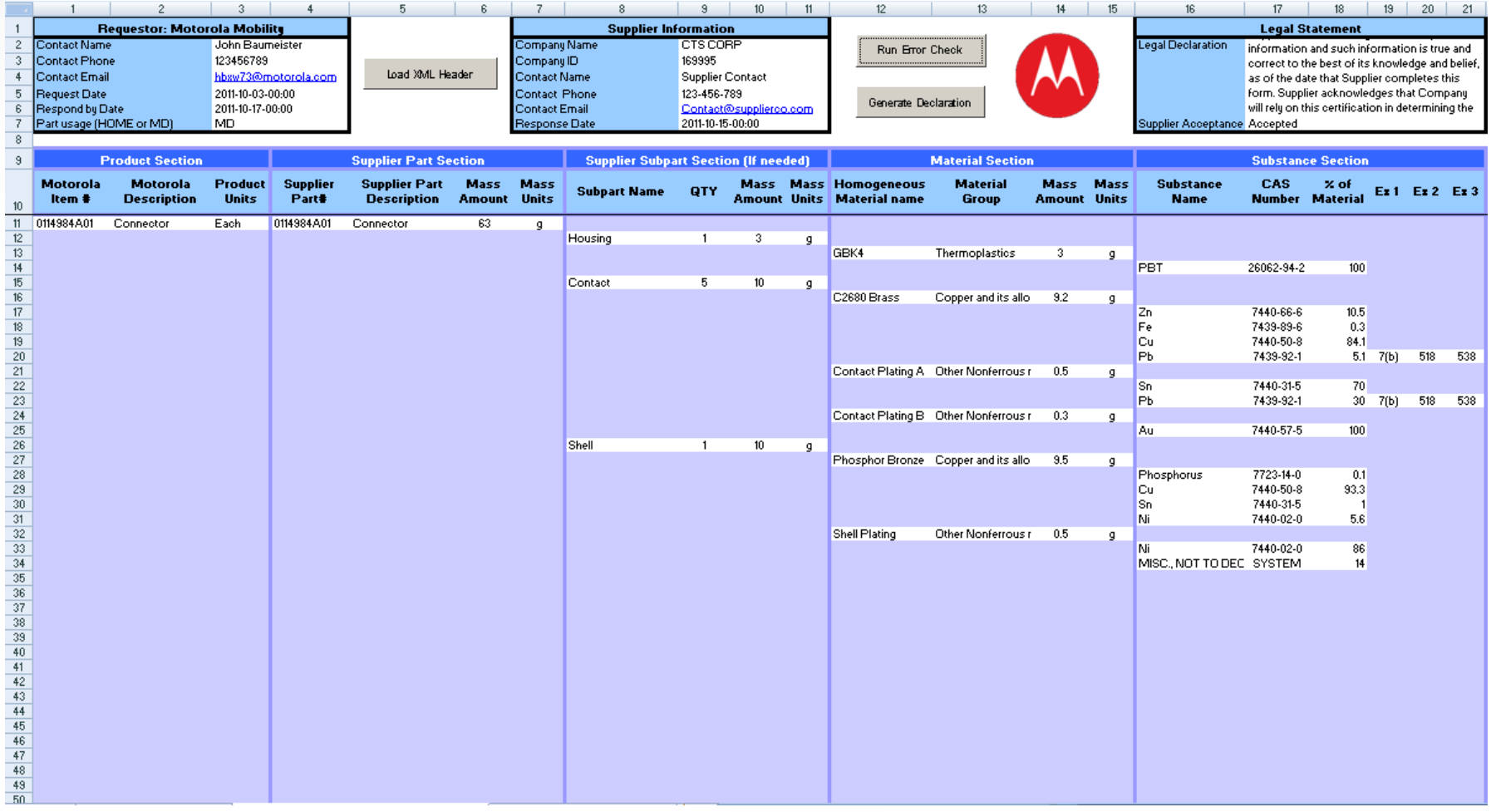


Creating Material Declarations

- Motorola Mobility recommends the use of the Motorola Mobility IPC Creator tool to generate your Material Declarations. Detailed training material is available on our Material Disclosure Resources and Training website - http://responsibility.motorola.com/index.php/suppliers/materialdisclose/resourcestraining/
- If you are preparing a Class A non-homogeneous declaration, you can utilize the Motorola Mobility Scriba tool, which has been modified to allow full compatibility with Motorola Environmental Data Management System. This can be downloaded from - http://responsibility.motorola.com/index.php/suppliers/materialdisclose/
- Any valid IPC 1752A Class D (homogeneous material) declaration generated from another tool is also acceptable
- Motorola Mobility also accepts Material Declarations in the form of IPC 1752-2 XML, PDF or XDP. Note - these forms do not support the new RoHS exemptions, and do not support the use of multiple exemptions

Populating the IPC Creator

Previously Suppliers had to populate multiple pages of a form to provide Material Declaration information. This has been greatly simplified with a one sheet form. All material is entered in one place:



Requestor: Motorola Mobility	
Contact Name	John Baumeister
Contact Phone	123456789
Contact Email	hbxw73@motorola.com
Request Date	2011-10-03-00:00
Respond by Date	2011-10-17-00:00
Part usage (HOME or MD)	MD

Load XML Header

Supplier Information	
Company Name	CTS CORP
Company ID	169995
Contact Name	Supplier Contact
Contact Phone	123-456-789
Contact Email	Contact@supplierco.com
Response Date	2011-10-15-00:00

Run Error Check

Generate Declaration

Legal Statement	
Legal Declaration	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
Supplier Acceptance	Accepted

Product Section			Supplier Part Section				Supplier Subpart Section (If needed)				Material Section				Substance Section					
Motorola Item #	Motorola Description	Product Units	Supplier Part#	Supplier Part Description	Mass Amount	Mass Units	Subpart Name	QTY	Mass Amount	Mass Units	Homogeneous Material name	Material Group	Mass Amount	Mass Units	Substance Name	CAS Number	% of Material	Ex 1	Ex 2	Ex 3
0114984A01	Connector	Each	0114984A01	Connector	63	g														
							Housing	1	3	g										
											GBK4	Thermoplastics	3	g						
															PBT	26062-94-2	100			
							Contact	5	10	g										
											C2680 Brass	Copper and its allo	9.2	g						
															Zn	7440-66-6	10.5			
															Fe	7439-89-6	0.3			
															Cu	7440-50-8	84.1			
															Pb	7439-92-1	5.1	7(b)	518	538
											Contact Plating A	Other Nonferrous r	0.5	g						
															Sn	7440-31-5	70			
															Pb	7439-92-1	30	7(b)	518	538
											Contact Plating B	Other Nonferrous r	0.3	g						
															Au	7440-57-5	100			
							Shell	1	10	g										
											Phosphor Bronze	Copper and its allo	9.5	g						
															Phosphorus	7723-14-0	0.1			
															Cu	7440-50-8	93.3			
															Sn	7440-31-5	1			
															Ni	7440-02-0	5.6			
											Shell Plating	Other Nonferrous r	0.5	g						
															Ni	7440-02-0	86			
															MISC., NOT TO DEC	SYSTEM	14			

Populating the IPC Creator, continued

The Motorola Mobility IPC Creator can be downloaded from

http://responsibility.motorola.com/index.php/suppliers/materialdisclose/

- Detailed instructions are provided in the Motorola Mobility Supplier training material
  http://responsibility.motorola.com/index.php/suppliers/materialdisclose/resourcestraining/
- Suppliers will load the XML header they received from Motorola Mobility, which auto-populates the Requestor and Supplier Information
- Suppliers must specify if a Material Declaration is intended for the Home or MD (Mobile Devices) Business, as well as the Response Date
- Suppliers shall type “Accepted” in the Supplier Acceptance field, signifying their legal compliance

Populating the IPC Creator, continued

Product and Supplier Part Section:

- The Motorola Item Number, Description, Product Units and Supplier P/N are auto-populated when loading the request header. These fields must not be changed!
- In the same row, populate the Supplier Description, Mass Amount and Mass Unit

	Requestor: Motorola Mobility	
Contact Name	John Baumeister
Contact Phone	123456789
Contact Email	hbxw73@motorola.com
Request Date	2011-10-03-00:00
Respond by Date	2011-10-17-00:00
Part usage (HOME or MD)	MD

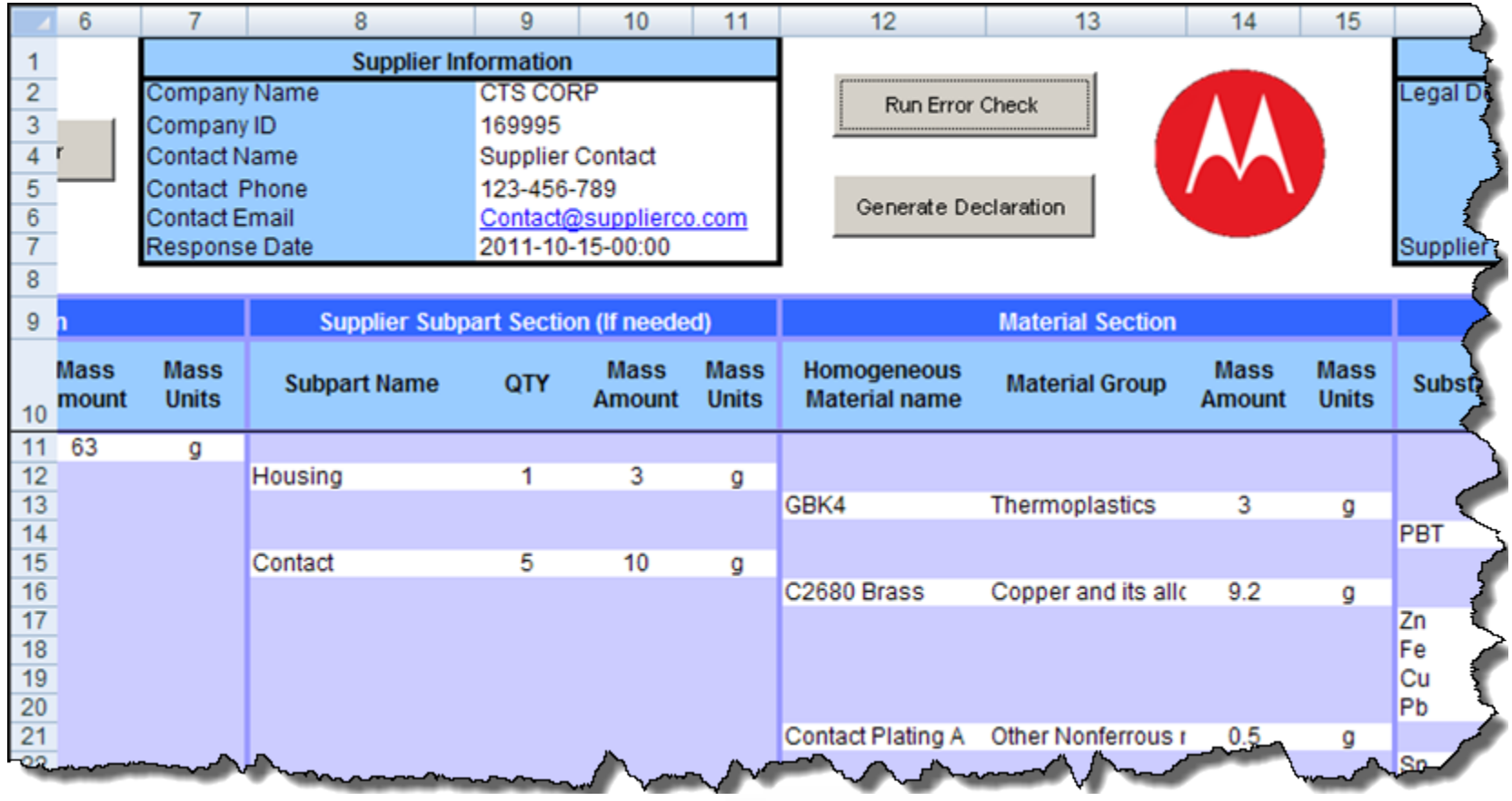
Load XML Header

Supplier Information	
Company Name	CTS CORP
Company ID	169995
Contact Name	Supplier Contact
Contact Phone	123-456-789
Contact Email	Contact@supplierco.co
Response Date	2011-10-15-00:00

Product Section			Supplier Part Section				Supplier Subpart Section (If needed)			
Motorola Item #	Motorola Description	Product Units	Supplier Part#	Supplier Part Description	Mass Amount	Mass Units	Subpart Name	QTY	Mass Amount	Mass Units
0114984A01	Connector	Each	0114984A01	Connector	63	g				
							Housing	1	3	g
							Contact	5	10	g

Populating the IPC Creator, continued

- Supplier Subpart is entered in its section on a new row, populating Name, QTY, Mass Amount and Mass Units
- Material Section is entered in its section providing the Homogeneous Material Name, Material Group (from a dropdown list), Mass Amount and Mass Units



Supplier Information	
Company Name	CTS CORP
Company ID	169995
Contact Name	Supplier Contact
Contact Phone	123-456-789
Contact Email	Contact@supplierco.com
Response Date	2011-10-15-00:00

Run Error Check

Generate Declaration

Legal D

Supplier

	Mass mount	Mass Units	Supplier Subpart Section (If needed) Subpart Name	QTY	Mass Amount	Mass Units	Material Section Homogeneous Material name	Material Group	Mass Amount	Mass Units	Subst
11	63	g									
12			Housing	1	3	g					
13							GBK4	Thermoplastics	3	g	
14											PBT
15			Contact	5	10	g					
16							C2680 Brass	Copper and its allc	9.2	g	
17											Zn
18											Fe
19											Cu
20											Pb
21							Contact Plating A	Other Nonferrous r	0.5	g	

Populating the IPC Creator, continued

Important notes regarding Homogeneous Materials

- If the product being declared has identification markings (eg: Ink), the markings must be declared as a separate homogeneous material
- All platings must be declared as separate homogeneous materials
- All labels, ink on labels and label adhesive must be declared as separate homogeneous materials

Populating the IPC Creator, continued

- Substance Section provides the chemical breakdown, CAS#, and % of Material
- Additionally, Suppliers should provide all the appropriate exemptions where applicable
- Motorola Mobility Exemptions are provided on the third tab of the tool

9	l Section			Substance Section				
10	al Group	Mass Amount	Mass Units	Substance Name	CAS Number	% of Material	Ex 1	Ex 2
11								
12								
13	olastics	3	g					
14				PBT	26062-94-2	100		
15								
16	and its allc	9.2	g					
17				Zn	7440-66-6	10.5		
18				Fe	7439-89-6	0.3		
19				Cu	7440-50-8	84.1		
20				Pb	7439-92-1	5.1	7(b)	518
21	onferrous r	0.5	g					
22				Sn	7440-31-5	70		
23				Pb	7439-92-1	30	7(b)	518
	errous	0.3						

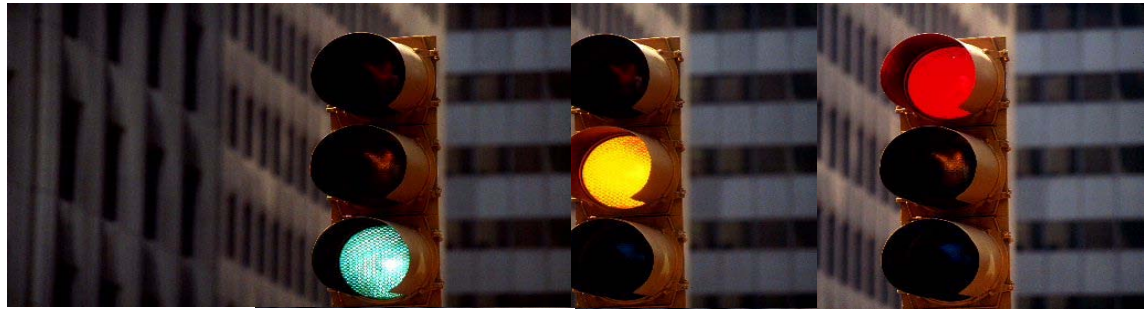
Populating the IPC Creator, continued

- Exemptions are provided for all Controlled substances, and are categorized by RoHS Substance, Motorola General and Motorola Surface Substance
- Exemptions should be populated by the Supplier
- Up to three exemptions can be provided for a Substance

	1	2	3	4	5
1			Exemption Color Codes:		RoHS Substance Exemptions
2					Motorola General Substance Exemptions
3	For Overlapping categories, supplier must apply applicable exemptions in each exemption class. E.g. RoHS + Motorola General + Motorola Surface				Motorola Surface Substance Exemptions
4					
5					
6					
7	Controlled Substance Category	PPM	Exemption Numbe	Expiration Date	Exemption Description
8	ANTIMONY/ANTIMONY COMPOUNDS	0	528		Part contains Antimony but will not have prolonged contact with skin (i.e. surface mount parts)
9	ANTIMONY/ANTIMONY COMPOUNDS	0	529		Part contains Antimony but the manufacturer certifies it meets ASTM F963-03
10	ARSENIC AND ARSENIC COMPOUNDS	0	502		Arsenic NOT in wood products as a preservative per 2003/2/EC
11	AZO DYES	30	517		Usage of azodyes is NOT in leather and/or textiles per EU Directive 2002/61/EC
12	BARIUM AND BARIUM COMPOUNDS	0	524		Part contains Barium but will not have prolonged contact with skin (i.e. surface mount parts)
13	BARIUM AND BARIUM COMPOUNDS	0	525		Part contains Barium but the manufacturer certifies it meets ASTM F963-03
14	CADMIUM AND CADMIUM COMPOUNDS	20	500		Cadmium not in batteries or packaging covered by EU RoHS
15	CADMIUM AND CADMIUM COMPOUNDS	100	8(b)		Cadmium and its compounds in electrical contacts
16	CADMIUM AND CADMIUM COMPOUNDS	100	13(b)		Cadmium (and lead) in filter glasses and glasses used for reflectance standards
17	CADMIUM AND CADMIUM COMPOUNDS	100	21		Lead and cadmium in printing inks for the application of enamels on borosilicate glass
18	CADMIUM AND CADMIUM COMPOUNDS	100	30		Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the v used in high-powered loudspeakers with sound pressure levels of 100 dB and more
19	CADMIUM AND CADMIUM COMPOUNDS	100	38		Cadmium and Cadmium oxide in thick film pasts used on aluminum bonded beryllium oxide

Technical Concepts

- **Specific Exemptions**



W18 Exemptions

- 91 different exemptions in the Motorola IPC Creator
  - EU RoHS Exemptions
  - MMI Specific Exemptions
- Based on different reasoning
  - Time until implementation
  - No better alternative is available in the industry
  - Some for specific businesses or use
  - Hazardous substance is not damaging in this certain use
- Must be provided if a W18 compliance threshold is exceeded. This may also require multiple exemptions to be applied to one substance category has overlapping restrictions in different specifications (ex: RoHS and W18)
- Please refer to MMI Exemptions listed in the W18 and the guidance document posted at:
  http://responsibility.motorola.com/index.php/suppliers/materialdisclose/resourcestraining/

Exemptions Applied to Lead in Metal Alloys

- Lead is often used as an alloying element to obtain specific properties of a metal alloy
- This exemption applies to the use of lead in:
  - steel up to 0.35% by weight,
  - aluminum up to 0.4% by weight
  - copper alloys up to 4% by weight
- In the context of this exemption, ‘percentage by weight’ has to be interpreted as ‘the percentage of lead per homogeneous material per discrete part’
- For example, if the steel housing of a computer consists of two separate parts, each part is considered separately, and can contain up to 0.35% lead by weight for their respective homogeneous materials

Exemptions Applied to Lead in Metal Alloys, continued

- These are examples of appropriate exemptions to apply:
  - Lead in steel up to 0.35% by weight
    - RoHS exemption - 6(a) – “Lead as an alloying element in steel containing up to 0.35% lead by weight”
    - W18 General - 518 – “Lead NOT in cable jackets or packaging; covered by RoHS”
    - W18 Surface - 538 – “Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)”
  - Aluminum up to 0.4% by weight
    - RoHS exemption - 6(b) – “Lead as an alloying element in aluminum containing up to 0.4% lead by weight”
    - W18 General - 518 – “Lead NOT in cable jackets or packaging; covered by RoHS”
    - W18 Surface - 538 – “Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)”
  - Copper alloys up to 4% by weight
    - RoHS exemption - 6(c) – “Lead as an alloying element in copper containing up to 4% lead by weight”
    - W18 General - 518 – “Lead NOT in cable jackets or packaging; covered by RoHS”
    - W18 Surface - 538 – “Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)”

Exemptions Applied to Lead in Electronic Components (Resistors and Capacitors)

- Ceramic and glass materials are used in a variety of electronic devices including capacitors and resistors.
- Some of these ceramic and glass materials contain lead, for example lead zirconate titinate, lead magnesium niobate and lead oxide.
- The specific chemical composition and manufacturing process of these materials determine their electrical parameters, such as dielectric constant and the dissipation that is essential for the functioning of the component in which they are used.
- Hence, lead used in the ceramic parts of electronic components in electrical and electronic equipment is exempt from these RoHS.
- In the context of this exemption, it is critical to note that lead must be part of a homogeneous ceramic substance within an electronic part and NOT part of the metal matrix which serves as a termination to the part.

Exemptions Applied to Lead in Electronic Components (Resistors & Capacitors), con't

- These are examples of appropriate exemptions to apply:
  - Lead in the glass layer of a resistor
    - RoHS exemption - 7(c)-I – "Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound"
    - W18 General - 518 – "Lead NOT in cable jackets or packaging; covered by RoHS"
    - W18 Surface - 538 – "Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)"
  - Lead in the ceramic dielectric of a high voltage capacitor
    - RoHS exemption - 7(c)-II – "Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher"
    - W18 General - 518 – "Lead NOT in cable jackets or packaging; covered by RoHS"
    - W18 Surface - 538 – "Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)"

Exemptions Applied to Lead in Electronic Components (Resistors & Capacitors), con't

- These are examples of appropriate exemptions to apply:
  - Lead in the ceramic dielectric of a low voltage capacitor
    - RoHS exemption - 7(c)-III – "Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC"
    - W18 General - 518 – "Lead NOT in cable jackets or packaging; covered by RoHS"
    - W18 Surface - 538 – "Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)"
  - Note: Exemption 7(c)-III expires 1/1/2013
    We do not recommended using low voltage capacitors containing lead in ceramic dielectric for new parts and products

Exemptions Applied to Lead in Solder

- Lead is used in a a variety of solders to produce alloys with specific melting temperatures and strength.
- As there are no alternatives to lead in key applications of low and high melting temperature solders, they are exempted by RoHS in specific solder formulations and applications.
- The presence of Lead must be confirmed to be part of a solder alloy and the weight % of the Lead must be understood to apply an appropriate exemption. (e.g. Pb 88%, Sn 12%; or Pb 86%, Sn 10%, Sb 4%)

Exemptions Applied to Lead in Solder, con't

- These are examples of appropriate exemptions to apply:
  - Lead in Solder (less than 85%)
    - RoHS exemption – 7(b) – "Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunications"
    - W18 General - 518 – "Lead NOT in cable jackets or packaging; covered by RoHS"
    - W18 Surface - 538 – "Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)"
  - Lead in Solder (greater than 85%)
    - RoHS exemption – 7(a) – "Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85% by weight or more lead)"
    - W18 General - 518 – "Lead NOT in cable jackets or packaging; covered by RoHS"
    - W18 Surface - 538 – "Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)"

Motorola Only Exemptions

- As previously discussed, some substances are only controlled by Motorola, or Motorola controls them at a lower threshold. For these substances, we have Motorola specific exemptions. Some examples are:
  - Nickel – that does not have prolonged contact with skin
    - W18 SURFACE Exemption - 501 – “Part contains Nickel, but will not have prolonged contact with skin (i.e. surface mount parts)”
  - Azo Dyes – not used in leather or textiles (>30 PPM)
    - W18 General Exemption – 517 - “Usage of azodyes is NOT in leather and/or textiles per EU Directive 2002/61/EC”
  - Lead (>70 PPM, <1000 PPM) – where above Motorola threshold, but below RoHS threshold
    - W18 General Exemption – 518 – “Lead NOT in cable jackets or packaging; covered by RoHS”
    - W18 SURFACE Exemption – 538 – “Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)”
  - Lead in a cable jacket (<300 PPM)
    - W18 General Exemption – 513 – “Lead in cable jackets only, up to 300 PPM per California Prop 65”
    - W18 SURFACE Exemption – 538 – “Part contains Lead but will not have prolonged contact with skin (i.e. surface mount parts)”

How to Submit a Declaration to Motorola Mobility Inc

- Create one email
- Attach the XML file which was generated by the Motorola Mobility IPC Creator
- Send the email to: WPASubmittal@motorola.com
  - Note: If multiple files are being submitted, a zip file can be sent, but it must include “1752” in the zip file name
- If any error messages are received, view the Motorola Mobility Error Code Resolution Guide: http://responsibility.motorola.com/index.php/suppliers/materialdisclose/resourcestraining

Frequently Asked Questions

- Can I continue using AIAG(CXS) file?
  - The AIAG (CXS) file should be used until official notification is received from Motorola Mobility Inc
  - Once notification is received please start submitting Material Declarations in XML format, consult EDM with any queries
  - In the transitional period (Nov-Dec), we recommend declaration by XML file, CXS file submission might cause a delay in data validation and product qualification
  - When any mismatch is found for Supplier Name, ID or Part Number, please contact the Motorola Mobility relevant engineer (MD part) or EDM team (Home part)

- What file formats are acceptable by wpasubmittal@motorola.com?
  - XML, ZIP
    Please make sure “1752” is in the zip or file name!

- Send supporting documentation to the EDM, or send email to
  - HomeW18Submittal@motorola.com （HOME)
  - Environmentaldata@motorola.com (MD)

http://responsibility.motorola.com/index.php/suppliers/materialdisclose/resourcestraining

Where can I Find Help ?

For any queries in the use of the Motorola Mobility IPC Creator and W18 declaration requirements, please contact:

- **Relevant EDM team, or**
- **Home business: HomeW18Submittal@motorola.com**
- **MD business Environmentaldata@motorola.com**

Frequent Material Declaration Errors

Below are common reasons Motorola Mobility may reject your Material Declaration

- Incomplete Material Declaration
- Misc>10% without supporting documents
- Non-homogeneous Material
- Volatiles >10% in one homogeneous material

Summary

In this training presentation you learned:

- The reason why Motorola is requesting material content information
- How Motorola intends to use the information
- How to fill out a Motorola material disclosure form (Motorola Mobility IPC Creator)
- When to apply appropriate Motorola Mobility and RoHS Exemptions
- How to submit a completed declaration
- Where to find help