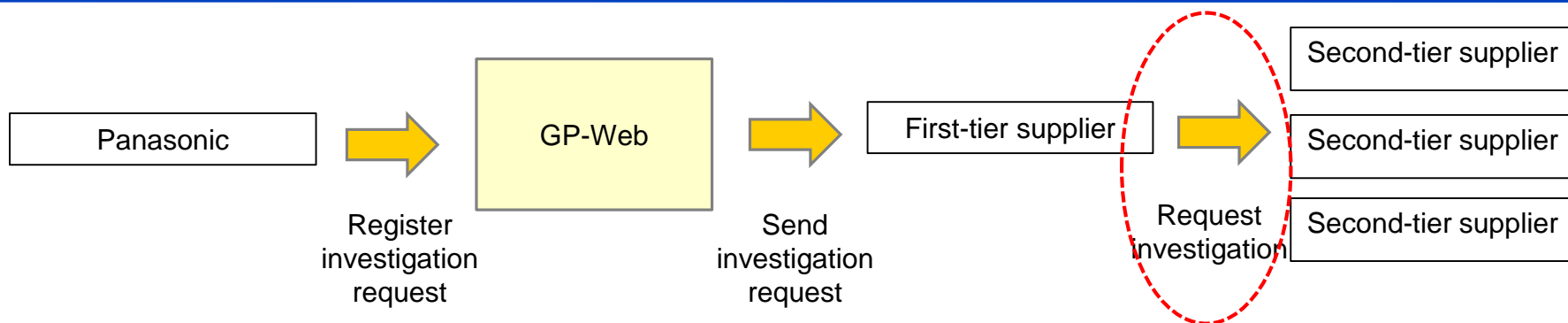


IV. Training

**Panasonic Corporation
Global Procurement Company (GPRC)
Quality & Environment Division(QED)**

Ver. 2.0(2018.11.1)

1. Creating Investigation Request Data Sent to Upstream Supplier
2. Entering Data in General Screen
3. Entering Data in Composition Screen
 - Cable
 - Printed circuit board
4. Approval
5. Using Prepared Data to Create chemSHERPA-AI
6. Integration
7. Entering Data in Compliance Screen



Information on requester (example)

รายการ	item	เนื้อหา
หมายเลขอ้างอิง	Reference number	req18-0001
วันที่ขอ	Request date	2018-11-10
กำหนดวันตอบกลับ	Reply deadline	2018-12-10
ชื่อบริษัท	Company name	Pana
ชื่อแผนก	Division name	Materials Dept.
ตำแหน่ง	Title	manager
ชื่อผู้ร้องขอ	Requester Name	Ichiro IRAI
ที่อยู่อีเมล	Email address	irai@pana.co.jp
หมายเลขโทรศัพท์	Phone number	11-111-1111
ชื่อผลิตภัณฑ์	Product name	Cable
หมายเลขผลิตภัณฑ์	Product number	XA-11

Information on issuer (example)

item	contents
Reference number	ABC00011
Preparation date	2018-12-01
Company name	ABC Corporation
Division name	Quality division
Title	Chief
Name of contact	Taro Matsushita
Email address	taro@abc.com
Phone number	01-234-5678

Information on Authorizer (example)

item	contents
Division name	Quality division
Title	Manager
Authorizer name	Sakura Yamada
Email	yamada@abc.com
Phone number	01-234-5678

Information on Product (example)

item	contents
Product name	CableA
Product number	R1234
Mass	8.3 g/m
Valid from	Today's date (auto-entry)

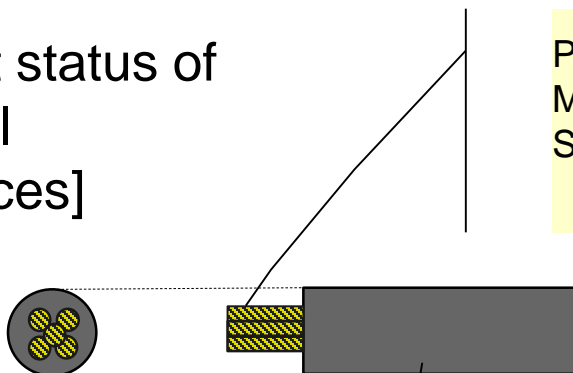
■ Example 1: Cable

Note: Information on application of product

- Application of cable at the delivery destination is unknown.

item	contents
Product name	CableA
Product number	R1234
Mass	8.3 g/m
Reporting unit	m

[Content status of
chemical
substances]



Part: Wire 1.5 g/m × 5 (pcs)

Material: Copper

Substance contained in part: Copper (CAS:7440-50-8) (99%)

* Value within parentheses shows content (%) in material

Part: Covering 0.8 g/m

Material: PVC

Substance contained in part: Phthalate ester (DEHP) (CAS:117-81-7) (15%)

Lead (CAS:7439-92-1) (0.05%)

Conceptual image of cable*

(* The image is prepared for training and different from actual cable.)

Ex. 3-1 Sample Answer: Cable

6

Component name	Material usage	Material name (symbol)	Mass	Contained substance
Wire	Base material	Copper (R311)	1.5 g	Copper (CAS:7440-50-8) (99%)
Covering	Clad	PVC (P514)	0.8 g	Phthalate ester (DEHP) (CAS:117-81-7) (15%) Lead (CAS:7439-92-1) (0.05%)

Data entry support tool for the chemSHERPA-AI Composition ToolVersion:chemSHERPA-A1.03.00a

File chemSHERPA-AI Article Tool

■ Composition

Product number	R1234	Finalization date	2017-05-18 14:05	Subject area	
Product name	CableA	Mass of product	8.3g		

Composition Enlarge or Reduce: Ctrl+scroll Update substance information Delete All clear

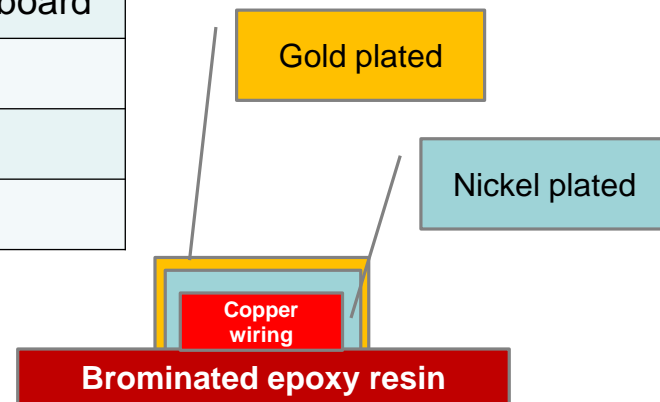
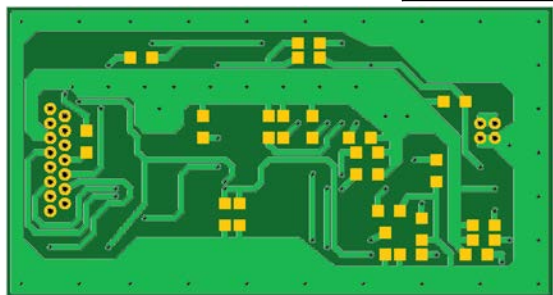
Component		Material				Substance			
Name	Quantity	Usage	Classification symbol	Name	Mass	Unit	Substance	CAS No.	Maximum content rate per materials
Add		Select	Add				Select	Add	
1 Wire	5	1.base material	R311	Copper (e.q. copper amounts in cable harnesses)	1.5	g	Copper (Cu)	7440-50-8	99
2 Covering	1	2.clad	P514	PVC (Poly(vinyl chloride))	0.8	g	Bis(2-ethylhexyl) ...	117-81-7	15
3							Lead	7439-92-1	0.05

Return to general Transit to compliance Error check Release Finalize

■ Example 2: Printed circuit board

item	contents
Reference number	ABC00022
Preparation date	2018-12-01

item	contents
Product name	Print circuit board
Product number	PCB001
Mass	500 mg
Reporting unit	piece



Conceptual image of printed circuit board (in cross section)*

(* The image is prepared for training and different from actual cable.)

Component name	Material usage	Material name (symbol)	Mass	Contained substance
Brominated epoxy resin	Base material	EP (N551)	200 mg	Brominated flame retardants(BFRs) not restricted of their inclusion by regulations (CAS:SN0015)(100%)
Copper wiring	Base material	Copper (R311)	150 mg	Copper (CAS:7440-50-8) (100%)
	Plating	Nickel plating (S002)	100 mg	Nickel (CAS:7440-02-0)(100%)
	Plating	Gold plating (S008)	50 mg	Gold (CAS:7440-57-5)(100%) (is not a declarable substance)

Ex. 3-2 Sample Answer: Printed Circuit Board

8

Component name	Material usage	Material name (symbol)	Mass	Contained substance
Brominated epoxy resin	Base material	EP (N551)	200 mg	Brominated flame retardants(BFRs) not restricted of their inclusion by regulations (CAS:SN0015)(100%)
Copper wiring	Base material	Copper (R311)	150 mg	Copper (CAS:7440-50-8) (100%)
	Plating	Nickel plating (S002)	100 mg	Nickel (CAS:7440-02-0)(100%)
	Plating	Gold plating (S008)	50 mg	Gold (CAS:7440-57-5)(100%) (is not a declarable substance)

Data entry support tool for the chemSHERPA-AI Composition ToolVersion:chemSHERPA-A1.03.00a

File chemSHERPA-AI

Composition Article Tool

Product number: PCB001 Finalization date: Subject area: Mass of product: 500mg

Product name: Print circuit board

Composition Enlarge or Reduce: Ctrl+scroll Update substance information Delete All clear

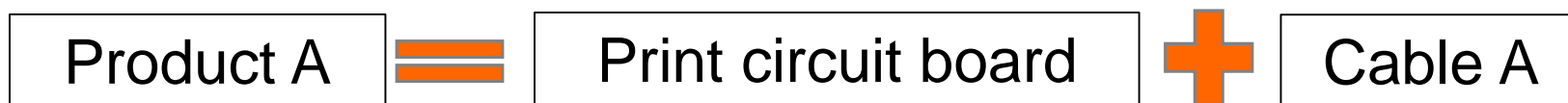
Component				Material			Substance		
Name	Quantity	Usage	Classification symbol	Name	Mass	Unit	Substance	CAS No.	Maximum content rate per materials
<input type="button" value="Add"/>		<input type="button" value="Select"/>	<input type="button" value="Add"/>				<input type="button" value="Select"/>	<input type="button" value="Add"/>	
1 brominated epoxy resin	1	1.base material	N551	EP (Epoxy resin)	200	mg	Brominated flame retardants(BFR...	SN0015	100
2 copper wiring	1	1.base material	R311	Copper (e.g. copper ...	150	mg	Copper (Cu)	7440-50-8	100
3		6.plating	S002	Nickel plating	100	mg	Nickel	7440-02-0	100
4		6.plating	S008	Gold plating	50	mg	gold	7440-57-5	100

Return to general Transit to compliance Error check Finalize

Perform approval to the information on the cable and printed circuit board.

Click [Citing] to import already prepared data.

Perform integration using the data on **the cable** and **printed circuit board** created in Exercise 3.



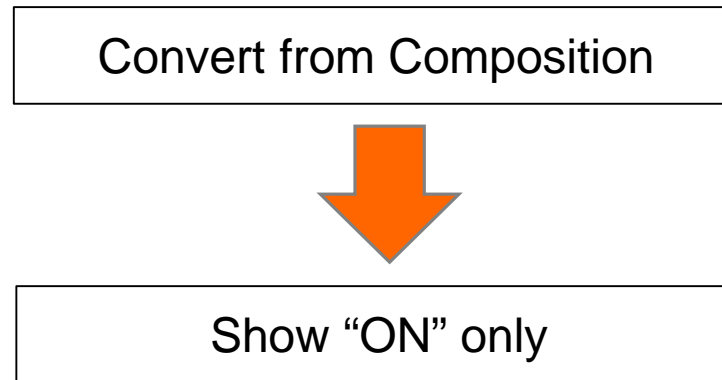
Product A

item	contents
Product name	Product A
Product number	AAA
Mass/unit	automatically calculated
Reporting unit	piece
Valid from	Today's date (auto-entry)

Note: Information on application of product

- Application at the delivery destination is unknown.

Enter compliance assessment information for the component integrated in Exercise 6.



Ex. 7-1 Entering Data in Compliance Screen (Example of assessment on brominated flame retardant)

13

■ 0.09% by weight (900 ppm) in total bromine content in board

Data entry support tool for the chemSHERPA-AI Compliance ToolVersion:chemSHERPA-A1.06.00a

File chemSHERPA-AI Article Tool

■ Compliance

Product number: AAA Finalization date: Subject area: IEC62474

Product name: Product A

Overall content flag: Y

Compliance Enlarge or Reduce: Ctrl+scroll ☒ All show ☐ Filtering Add Delete Convert from Composition All clear Update

	Subject substance		Candidate item <input checked="" type="checkbox"/> w "ON" Clear	Reportable applications	Reporting threshold	Content above the threshold
	CAS No./ Substance group ID	Substance/Substance group				<input type="checkbox"/> Show "Y" only Batch "N"
4	SG004	Brominated flame retarda...	<input checked="" type="checkbox"/>	Printed wiring board laminate	0.09 mass% total bromine content in laminate [ReportingLevel:Material]	Entry Y
5				Plastic materials except print...	0.1 mass% of bromine in plastic materials [ReportingLevel:Material]	N
14	SG014	Lead/Lead Compounds	<input checked="" type="checkbox"/>	All, except for: 1. batteries, ...	0.1 mass% of total Pb in homogenous material [ReportingLevel:Material]	N
15				Consumer products designed...	0.01 mass% [ReportingLevel:Product]	N
16				Paint and similar surface coa...	0.009 mass% of surface coating material [ReportingLevel:Material]	Y
17				Cables/cords with thermoset...	0.03 mass% of surface coating material [ReportingLevel:Material]	Y
18				Batteries	0.004 mass% of battery [ReportingLevel:Product Part]	N
26	SG024	Phthalates, Selected Grou...	<input checked="" type="checkbox"/>	Children's toy or child care ar...	0.1 mass% as the sum of the phthalate concentrations in plasticized m...	Y
49	SG047	Nickel/Nickel Compounds	<input checked="" type="checkbox"/>	All, where prolonged skin co...	Intentionally Added [ReportingLevel:Product]	N
62	117-81-7	Bis (2-ethylhexyl)phthalat...	<input checked="" type="checkbox"/>	All	0.1 mass% in homogenous material [ReportingLevel:Material]	Y

Return to general Transit to composition Error check Finalize

Note:

The reporting threshold for the laminated printed circuit board uses the content rate per printed circuit board, not the content rate per homogeneous material.

Ex. 7-1 Entering Data in Compliance Screen (Example of assessment on brominated flame retardant)

14

■ 0.09% by weight (900 ppm) in total bromine content in board

Data entry support tool for the chemSHERPA-AI Composition ToolVersion:chemSHERPA-A1.03.00a

File **ChemSHERPA-AI** Article Tool

■ **Composition**

Product number: AAA Finalization date: Subject area: IEC62474
Product name: Product A Mass of product: 8.8g

Composition Enlarge or Reduce: Ctrl+scroll Update substance information Delete All clear

Level	Component	Material	Substance						
Name	Quantity	Usage	Classification symbol	Name	Mass	Substance	CAS No.	content rate per	
Add	Add	Select	Add	Select	Add	Select	Add		
1	Print circuit board	1	base material	N551	EP (Epoxy resin)	200 mg	Brominated flame retardants(...)	SN0015	100
2		1	base material	R311	Copper (e.g. copper)	150 mg	Copper (Cu)	7440-50-8	100
3		6	plating	S002	Nickel plating	100 mg	Nickel	7440-02-0	100
4		6	plating	S008	Gold plating	50 mg	Gold	7440-57-5	100
5	CableA								99
6									15
7									0.05

Bromine content needs to be calculated, but the substance is registered as "undeclarable brominated flame retardant" and the conversion factor is unknown. Thus the conversion factor "1" (100% bromine) is used for calculation (bromine 200 mg).

Content of bromine in whole laminated printed circuit board: 500 mg

[Content rate of Bromine] $200 \text{ (mg)} \div 500 \text{ (mg)} \times 10^6 = 400,000 \text{ (ppm)}$

If chemical formula of brominated flame retardant is available:

$(\text{C}_{36}\text{H}_{32}\text{Br}_8\text{O}_6)_n \Rightarrow (12 \times 36) + (1 \times 32) + (80 \times 8) + (16 \times 6) = 1200$

Conversion rate for bromine $80 \times 8 / 1200 = 0.533$ (533,333 ppm)

$400,000 \times 0.533 = 213,200 \text{ ppm}$

⇒ Generally, if substances are not disclosed, contact the supplier to obtain information of the content rate of bromine.

Data entry support tool for the chemSHERPA-AI Compliance ToolVersion:chemSHERPA-A1.06.00a

File chemSHERPA-AI Article Tool

■ Compliance

Product number AAA Finalization date Subject area IEC62474

Product name Product A

Overall content flag Y

Compliance Enlarge or Reduce: Ctrl+scroll ☒ All show ☐ Filtering Add Delete Convert from Composition All clear Update

	Subject substance		Candidate item	ID	Reportable applications	Reporting threshold	Content above the threshold		Content rate (ppm)	Quantity of content		Usage code
	CAS No./ Substance group ID	Substance/Substance group	<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF Clear				<input type="checkbox"/> Show "Y" on Batch "N"	Quantity of content		Unit	Input: Cell double-click	
4	SG004	Brominated fla...	<input checked="" type="checkbox"/>	00008	Printed wiring board la...	0.09 mass% total bromine content...	Y	▼	400000	200	mg	▼
5				00009	Plastic materials except...	0.1 mass% of bromine in plastic m...	N	▼				▼
14	SG014	Lead/Lead Comp...	<input checked="" type="checkbox"/>	00021	All, except for: 1. batt...	0.1 mass% of total Pb in homogen...	N	▼				▼
15				00022	Consumer products desi...	0.01 mass% [ReportingLevel:Prod...	N	▼				▼
16				00023	Paint and similar surfac...	0.009 mass% of surface coating m...	Y	▼	500	0.4	mg	▼
17				00024	Cables/cords with ther...	0.03 mass% of surface coating ma...	Y	▼	500	0.4	mg	▼
18				00025	Batteries	0.004 mass% of battery [Reportin...	N	▼				▼
26	SG024	Phthalates, Sele...	<input checked="" type="checkbox"/>	00036	Children's toy or child c...	0.1 mass% as the sum of the phth...	Y	▼	150000	120	mg	▼
49	SG047	Nickel/Nickel Co...	<input checked="" type="checkbox"/>	00031	All, where prolonged ski...	Intentionally Added [ReportingLev...	N	▼				▼
62	117-81-7 Bis (2-ethylhexy...		<input checked="" type="checkbox"/>	00038	All	0.1 mass% in homogenous materi...	Y	▼	150000	120	mg	▼

Return to general Transit to composition Error check Finalize