


THE ECO DECLARATION

Product environmental attributes – THE ECO DECLARATION

The declaration may be published only when all rows and/or fields marked with an * are filled-in (n.a. for not applicable).
Additional information regarding each item may be found under P14.

Brand *	<i>Lenovo</i>	Logo 
Company name *	<i>Lenovo</i>	
Contact information *	<i>Lenovo Global Environmental Affairs Alvin L Carter 1009 Think Place Building 2 / 5J3 Morrisville, North Carolina 27560 alcarter@lenovo.com</i>	
Internet site *	<i>http://www.lenovo.com/social_responsibility/us/en/environment.html</i>	
Additional information		

The company declares (based on product specification or test results based obtained from sample testing), that the product conforms to the statements given in this declaration.

Type of product *	<i>Personal Computer</i>
Commercial name *	<i>ThinkCentre M92/M92p SFF</i>
Model number *	<i>2934,2941,2945,2961,2982,2988,2993,2996,3181,3183, 3185,3187,3198,3202,3207,3209,3214,3218,3224,3227</i>
Issue date *	<i>2012.04.27</i>
Intended market *	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia, Pacific & Japan <input type="checkbox"/> Americas <input type="checkbox"/> Other
Additional information	<i>ENERGY STAR® Qualified; EPEAT Gold Rating, GREENGUARD Certification, ULE certificate</i>

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

Quality Control		Requirement met	
		Yes	No
QC1 *	The company enforces an internal quality control scheme to ensure the correctness of this eco declaration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
QC2 *	The company is a member of an eco declaration system that enforces regular independent quality control such as organized by IT-Företagen (see www.itcodeclaration.org).	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Model number *	ThinkCentre M92/M92p SFF MT: 2934,2941,2945,2961,2982,2988,2993,2996,3181,3183,3185,3187,3198,3202,3207,3209,3214,3218,3224,3227
Issue date *	2012.04.27
Logo	lenovo

Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
P1 Hazardous substances and preparations				
P1.1*	Products do not contain more than; 0.1% lead, 0.01% cadmium, 0.1% mercury, 0.1% hexavalent chromium, 0.1% polybrominated biphenyls (PBB) or 0.1% polybrominated diphenyl ethers (PBDE). (See legal reference and Note B1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.2*	Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.3*	Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorocarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.4*	Products do not contain more than; 0.005% polychlorinated biphenyl (PCB), 0.005% polychlorinated terphenyl (PCT) in preparations (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.5*	Products do not contain more than 0.1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.6*	Textile and leather parts with direct skin contact do not contain Tri-(2,3,-dibromopropyl)-phosphate (TRIS), Tris-(aziridinyl)-phosphineoxide (TEPA), polybrominated biphenyl (PBB) (see legal reference). Comment: Legal reference has no maximum concentration values.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.7*	Textile and leather parts with direct skin contact do not contain more than 0.003% Azo colorants that split aromatic amines. (See legal reference and Note B1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.8*	Wooden parts do not contain arsenic and chromium as a wood preservation treatment as well as pentachlorophenol and derivatives (see legal reference). Comment: Legal reference has no maximum concentration values.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.9*	Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm ² /week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:1998.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.10*	REACH Article 33 information about substances in articles is available at (add URL or mail contact): http://www.lenovo.com/social_responsibility/us/en/ThinkGreen_products.html#environment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2 Batteries				
P2.1*	If the product contains a battery or an accumulator, it is labeled with the disposal symbol and if it contains more than 0.0005% of mercury (for button cells only) by weight, or more than 0.004% of lead, it shall be marked with the chemical symbol for the metal concerned, Hg or Pb. Information on proper disposal is provided in user manual. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.2*	Button cells used in the product do not contain more than 2% by weight of mercury. Other batteries or accumulators do not contain more than 0.0005% of mercury or 0.002% of cadmium. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.3*	Batteries and accumulators are easily removable by either users or service providers (as dependent on the design of the product). Exception: Batteries that are permanently installed for safety, performance, medical or data integrity reasons do not have to be "easily removable". (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3 Safety, EMC connection to the telephone network and labeling				
P3.1*	The product complies with legally required safety standards as specified (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.2*	The product complies with legally required standards for electromagnetic compatibility (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.3*	If product is intended for connection to a public telecom network or contains a radio transmitter, it complies with legally required standards for radio and telecommunication devices (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.4*	The product is labeled to show conformance with applicable legal requirements (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P4 Consumable materials				
P4.1*	If a photo conductor (drum, belt etc.) is used in the product, it does not contain cadmium max 0.01% (see legal reference and Note B1).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.2*	If ink/toner is used in the product, it does not contain cadmium max 0.1% by weight (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.3*	If the ink/toner formulation/preparation is classified as hazardous according to applicable regulations, the product/package is adequately labeled and a Safety Data Sheet (SDS) in accordance with these requirements is available (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P5 Product packaging				
P5.1*	Packaging and packaging components do not contain more than 0.01% lead, mercury, cadmium and hexavalent chromium by weight of these together.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P5.2*	Plastic packaging material is marked according to ISO 11469 referring ISO 1043 (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P5.3*	The product packaging material is free from ozone depleting substances as specified in the Montreal Protocol (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note B1: Restriction applies to the homogeneous material, unless other specified and expressed in weight %.

Model number *	ThinkCentre M92/M92p SFF MT: 2934,2941,2945,2961,2982,2988,2993,2996,3181,3183,3185,3187,3198,3202,3207,3209,3214,3218,3224,3227		
Issue date *	2012.04.27	Logo	lenovo

Product environmental attributes - Market requirements - Environmental conscious design		Requirement met		
Item	*=mandatory to fill in. Additional information regarding each item may be found under P14.	Yes	No	n.a.
P6	Treatment information			
P6.1*	Information for recyclers/treatment facilities is available (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7	Design			
	Disassembly, recycling			
P7.1*	Parts that have to be treated separately are easily separable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.2*	Plastic materials in covers/housing have no surface coating.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.3*	Plastic parts >100g consist of one material or of easily separable materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.4*	Plastic parts >25g have material codes according to ISO 11469 referring ISO 1043.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Product lifetime			
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.8*	Upgrading can be done using commonly available tools	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.9.	Spare parts are available after end of production for: 5 years			<input type="checkbox"/>
P7.10	Service is available after end of production for: 5 years			<input type="checkbox"/>
	Material and substance requirements			
P7.11*	Product cover/housing material type: Material type: ABS Material type: PC/ABS Material type: Steel			
P7.12	Electrical cable insulation materials of power cables are PVC free.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.13	Electrical cable insulation materials of signal cables are PVC free	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.14	All cover/housing plastic parts >25g are free from chlorine and bromine.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.15	All printed circuit boards (without components) >25g are halogen free. as defined in IEC61249-2-21. (See Note B2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.16	Flame retarded plastic parts >25g in covers / housings are marked according ISO 1043-4: Marking:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.17	Alt. 1 Chemical specifications of flame retardants in printed circuit boards >25g (without components): TBBPA (additive) <input type="checkbox"/> , TBBPA (reactive) <input checked="" type="checkbox"/> , Other; chemical name: , CAS #: , Alt. 2 Chemical specifications of flame retardants in printed circuit boards (without components) >25g according ISO 1043-4: Brominated Epoxy Resin See P14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.18	Alt. 1 Flame retarded plastic parts >25g contain the following flame retardant substances/preparations in concentrations above 0.1%: Comment: No legal limits exist, this is a market requirement. Provide a list of all used flame retardants including MSDS for each flame retardant. The list must contain complete chemical name, CAS number and supplier. 1. Chemical name: , CAS #: , Supplier: ; 2. Chemical name: , CAS #: , Supplier: ; 3. Chemical name: , CAS #: , Supplier: ; Alt. 2 Chemical specifications of flame retardants in plastic parts >25g according ISO 1043-4:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.19	Plastic parts >25g are free from flame retardant substances/ preparations above 0.1% classified as R45, R40, R46, R48, R50, R51, R53, R60, R61 and any combination of these (See Note B3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.20	Of total plastic parts' weight >25g, recycled material content is SFF: 44.62%			
P7.21	Of total plastic parts' weight >25g, biobased material content is 0% .			
P7.22	Light sources are free from mercury	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P8	Batteries			
P8.1*	Battery chemical composition:			<input checked="" type="checkbox"/>
P8.2	Batteries meet the requirements of the following voluntary program/s:			<input checked="" type="checkbox"/>

Note B2: IEC61249-2--21 has maximum limits for chlorine and bromine but does not address fluorine, iodine and astatine which are included in the group of halogens.

Note B3: 'Starting from January 2009, Risk phrases can be replaced by Hazard phrases according to the Globally Harmonized System (GHS), mandatory by December 2010.

Model number *	ThinkCentre M92/M92p SFF MT: 2934,2941,2945,2961,2982,2988,2993,2996,3181,3183,3185,3187,3198,3202,3207,3209,3214,3218,3224,3227		
Issue date *	2012.04.27	Logo	lenovo

Product environmental attributes - Market requirements (continued)					Requirement met		
Item					Yes	No	n.a.
P9	Energy consumption						
9.1	For the product the following power levels or energy consumptions are reported: See P14 The product is shipped w/ WOL Enabled.				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energy mode *	Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC	Reference / Standard for energy modes and test method *			<input type="checkbox"/>
Category D							
Idle State - WOL Enabled	32.93W	32.70W	32.44W	Use for Energy Star V5 registration(P_{idle})			<input type="checkbox"/>
Sleep (S3) - WOL Enabled	1.70 W	1.68 W	1.80W	Use for Energy Star V5 registration(P_{sleep})			<input type="checkbox"/>
Off (S5) - WOL Enabled	0.65W	0.66 W	0.78W	Use for Energy Star V5 registration(P_{off})			<input type="checkbox"/>
Peak (On-max)	101.91W	100.42w	102.01w	Full load			<input type="checkbox"/>
Category C							
Idle State - WOL Enabled	N/A	N/A	N/A	Use for Energy Star V5 registration(P_{idle})			<input type="checkbox"/>
Sleep (S3) - WOL Enabled	N/A	N/A	N/A	Use for Energy Star V5 registration(P_{sleep})			<input type="checkbox"/>
Off (S5) - WOL Enabled	N/A	N/A	N/A	Use for Energy Star V5 registration(P_{off})			<input type="checkbox"/>
Peak (On-max)	N/A	N/A	N/A	Full load			<input type="checkbox"/>
Category B							
Idle State - WOL Enabled	33.16W	33.48W	33.17W	Use for Energy Star V5 registration(P_{idle})			<input type="checkbox"/>
Sleep (S3) - WOL Enabled	1.82W	1.81 W	1.84 W	Use for Energy Star V5 registration(P_{sleep})			<input type="checkbox"/>
Off (S5) - WOL Enabled	0.47W	0.50W	0.80W	Use for Energy Star V5 registration(P_{off})			<input type="checkbox"/>
Peak (On-max)	79.41W	73.01W	77.82W	Full load			<input type="checkbox"/>
Category A							
Idle State - WOL Enabled	33.18W	33.25W	35.89W	Use for Energy Star V5 registration(P_{idle})			<input type="checkbox"/>
Sleep (S3) - WOL Enabled	1.65W	1.68 W	1.73W	Use for Energy Star V5 registration(P_{sleep})			<input type="checkbox"/>
Off (S5) - WOL Enabled	0.47W	0.50W	0.62 W	Use for Energy Star V5 registration(P_{off})			<input type="checkbox"/>
Peak (On-max)	67.32W	66.87W	67.41W	Full load			<input type="checkbox"/>
EPS No-load (External power supply / charger plugged in the wall outlet but disconnected from	W	W	W				<input type="checkbox"/>
TEC Typical Energy Consumption	kWh/week	kWh/week	kWh/week				<input checked="" type="checkbox"/>
E _{TEC} * Annual Energy Consumption	Cat D: 119.26; Cat C: N/A ; Cat B: 119.25; Cat A: 115.75; kWh/year	Cat D: 118.50; Cat C: N/A ; Cat B: 120.52; Cat A: 119.65; kWh/year	Cat D: 118.22; Cat C: N/A ; Cat B: 120.89; Cat A: 129.50 kWh/year	$E_{TEC} = (8760/1000) \times (P_{off} \times 0.6 + P_{sleep} \times 0.1 + P_{idle} \times 0.3)$			<input type="checkbox"/>
<i>P_{off}: Off Mode(S5) - WOL Enabled; P_{sleep}: Sleep Mode(S3) - WOL Enabled; P_{idle}: Idle State - WOL Enabled</i>							
Display resolution :	Megapixels						<input type="checkbox"/>
Print Speed :	Images per minute						<input checked="" type="checkbox"/>
Default time to enter energy save mode:	30 minutes						<input type="checkbox"/>
P9.2*	Information about the energy save function is provided with the product.				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P9.3*	The product meets the energy requirements of the following voluntary program/s: ENERGY STAR® version: Version 5.2 Product category: A,B,C,D Others specify:				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Model number *	ThinkCentre M92/M92p SFF MT: 2934,2941,2945,2961,2982,2988,2993,2996,3181,3183,3185,3187,3198,3202,3207,3209,3214,3218,3224,3227		
Issue date *	2012.04.27	Logo	lenovo
P10 Emissions			
Noise emission – Declared according to ISO 9296			
P10.1	Mode	Mode description	Declared A-weighted sound power level L_{WAd} (B)
			Declared A-weighted sound pressure level L_{pAm} (dB)
			Operator position <input checked="" type="checkbox"/> Bystander positions <input type="checkbox"/>
			Desktop <input checked="" type="checkbox"/> (only if product is not operator attended)
			or Desk side <input type="checkbox"/>
	Idle	* HDD: Idle	* 3.3
	Operation	* HDD: Operating	* 3.5
	Other mode		
	Measured according to: <input checked="" type="checkbox"/> ISO7779 <input type="checkbox"/> ECMA-74 <input type="checkbox"/> Other (only if not covered by ECMA-74 with L_{pAm} measurement distance m)		
P10.2	The product meets the acoustic noise requirements of the following voluntary program/s: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>		
Product environmental attributes - Market requirements (continued)			Requirement met
Item			Yes No n.a.
Chemical emissions from printing products			
P10.3*	Test performed according to ECMA-328 (ISO/IEC 28360) standard <input type="checkbox"/> , other specify:		<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
P10.4	Typical emission rate (print phase) is (mg/h): Dust Ozone Styrene Benzene TVOC		<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
P10.5	Chemical emission requirements of the following voluntary program/s are met for : Dust <input type="checkbox"/> Ozone <input type="checkbox"/> Styrene <input type="checkbox"/> Benzene <input type="checkbox"/> TVOC <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Electromagnetic emissions			
P10.6	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program/s:		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
P11 Consumable materials for printing products			
P11.1*	A Safety Data Sheet (SDS) is available for the ink/toner preparation, even if not legally required (see P4.3).		<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
P11.2*	Paper containing post-consumer recycled fibers can be used, provided that it meets the requirements of EN12281.		<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
P11.3*	2-sided (duplex) printing/copying is an integrated product function.		<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
P12 Ergonomics for computing products			
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
P13 Packaging and documentation			
P13.1*	Product packaging material type(s): Corrugated paper weight (kg): 1.125 Product packaging material type(s): Fabricated PE weight (kg): 0.165 Product packaging material type(s): HDPE weight (kg): 0.016		
P13.2*	Product plastic packaging is free from PVC.		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
P13.3*	Specify media for user and product documentation (tick box): Electronic <input checked="" type="checkbox"/> , Paper <input checked="" type="checkbox"/> , Other <input type="checkbox"/>		<input type="checkbox"/>
P13.4*	For paper user and product documentation, please specify contained percentage of post-consumer recycled fiber: 0% (Japan only 70%)		<input type="checkbox"/>
P14 Additional information (See Note B4)			
NOTE: Supplier makes no representations, guarantees, assurances or warranties whether express or implied, regarding the information contained in this document. All information provided by supplier in this document is provided based on supplier's knowledge available at the time of completion, and supplier shall have no obligation to update such information. The information provided here is approximate and provided for informational purposes only. See a Lenovo Account Representative for more information.			
P7.17	Product does not contain free TBBPA in printed circuit boards(without components)>25g.		
P9	See Find ENERGY STAR Products for the latest Qualified Desktop Computer information: https://www.energystar.gov/index.cfm?c=products.pr_find_es_products		

Note B4: Additional lines may be inserted to declare further items, by positioning the cursor at the far right of the row and hitting the <Enter> key.

Legal references Europe Annex B

Reference	Declaration item
2002/95/EC (ROHS Directive)	P1.1, P4.1
REACH, Annex XVII	P1.6, P1.8, P4.2
REACH, Annex XVII	P1.4
REACH, Annex XVII	P1.2
REACH, Annex XVII	P1.7
REACH, Annex XVII	P1.9
Regulation (EC) No. 2037/2000, 2038/2000, 2039/2000	P1.3
Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002	P1.5
2006/66/EC (Battery and accumulators Directive)	P2.1, P2.2, P2.3, P3.4, P8.1
2006/95/EC (Low Voltage Directive)	P3.1, 3.4
2004/108/EEC (New EMC Directive)	P3.2, 3.4
1999/5/EC (R&TTE Directive)	P3.3, 3.4
"REACH" Regulation (1907/2006), annex VII	P1.10
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P4.3
REACH article 31, annex II	P4.3
2004/12/EC (Directive on packaging and packaging waste)	P5.1
(97/129/EC) (Commission Decision on Identification System for Packaging Materials)	P5.2
2037/2000/EC Regulation on Substances that Deplete the Ozone Layer	P5.3
2002/96/EC (WEEE directive)	P3.4, P6.1
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P7.19