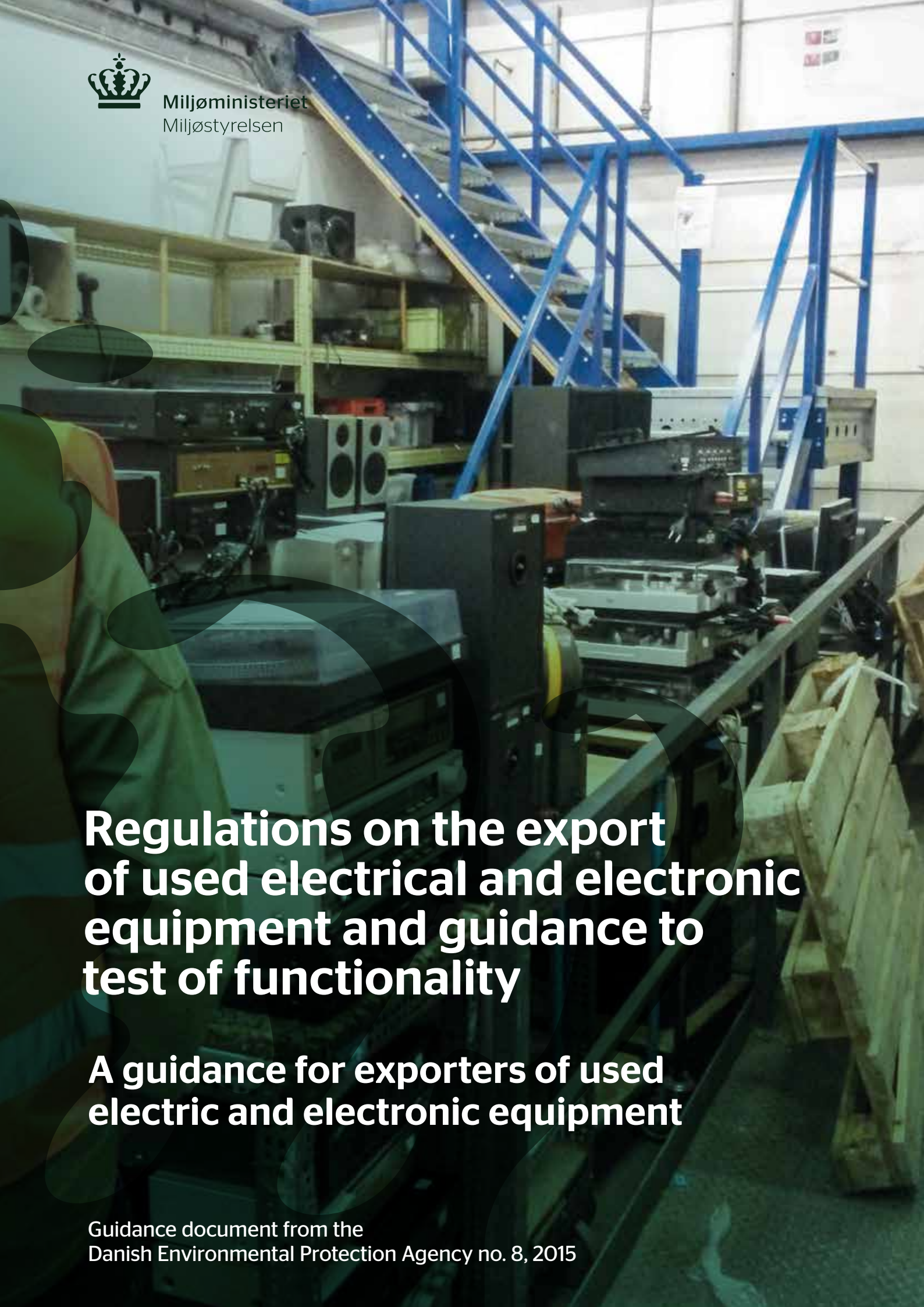

Miljøministeriet
Miljøstyrelsen

Regulations on the export of used electrical and electronic equipment and guidance to test of functionality

A guidance for exporters of used electric and electronic equipment

Guidance document from the
Danish Environmental Protection Agency no. 8, 2015

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The regulations in brief

This guidance is for persons who export *used* electric and electronic equipment. The guidance contains information about EU regulations for exports of used electric and electronic equipment under the Directive on waste electrical and electronic equipment (the WEEE Directive). The regulations apply to exports of used electric and electronic equipment to other EU Member States as well as to exports outside the EU.

The regulations entail a number of minimum requirements with which you must comply. These apply to all exports of used electric and electronic equipment. Furthermore, there is a number of ***supplementary requirements*** with which you must comply if the age or condition of your equipment gives rise to doubts as to whether the equipment is waste electrical and electronic equipment (WEEE) or used electric and electronic equipment.

The following applies to all exports of used electric and electronic equipment:

- The used equipment must be appropriately protected against damage during transportation and during loading and unloading (see the Danish EPA's guidance document *How to pack used electronics prior to transport* at www.mst.dk).
- A relevant transport document (e.g. a CMR waybill[1] or other waybill) must accompany the shipment.
- A declaration from you that you are responsible for the shipment.

The export of old, worn or damaged electric and electronic equipment may give rise to suspicions that the shipment contains WEEE. In such circumstances, you should therefore make sure to meet the following supplementary requirements:

- The functionality of all equipment in the shipment must be tested and documented.
- All of the equipment must be evaluated and documented for the presence of hazardous substances.
- There are also requirements for additional documentation to accompany the shipment. See page 8 for a description of these requirements.

In the check-list on page 8, you can get an overview of the requirements that you need to comply with.

This guidance document contains a more detailed description of the various documentation requirements, exemptions from the regulations, as well as guidelines for test of functionality and evaluation for the presence of hazardous substances in the following types of equipment:

- Refrigerators and freezers
- Washing machines
- Desktop and laptop computers
- Screens (computer and TV)
- Mobile phones and tablets.

There are also general guidelines for test of functionality and for evaluation for the presence of hazardous substances in used electric and electronic equipment.

[1] A CMR waybill is a type of waybill which complies with the regulations of the international CMR Convention (Convention on the Contract for the International Carriage of Goods by Road) from 1965. See the Danish CMR Act (Consolidating Act no. 602 of 9 September 1986) for the specific requirements for the waybill.

Ban against exports of WEEE outside the OECD

WEEE contains hazardous substances such as lead, cadmium, mercury, PCBs, asbestos and freon gasses. WEEE can be harmful to humans and to the environment and must therefore be treated at specialised waste treatment facilities. The essential objective of the regulations on the shipment of used electric and electronic equipment is to prevent the export of used equipment which is actually an export of WEEE.

Due to the presence of hazardous substances in WEEE, there is also a general ***ban*** on exporting WEEE to ***non-OECD countries***. Within the OECD and the EU, exports of WEEE require permission from all of the countries involved. You can read more about the regulations on shipments of waste on www.eng.mst.dk.

If you fail to comply with the regulations on exports of used electric and electronic equipment, your used equipment will be considered WEEE. Furthermore, the shipment will be considered an illegal shipment of waste if you fail to report it as a shipment of waste to the Danish Environmental Protection Agency (EPA). Violations of these regulations can lead to fines.

Exports of used equipment – functionality is *your* responsibility

It is your responsibility to make sure that the used equipment which you want to export ***is not*** WEEE, and that the used equipment ***does not become*** WEEE during transportation. You can ensure this by meeting the requirements for appropriate packaging as well as a number of documentation requirements.

If your equipment can be suspected of being WEEE, you are moreover required to perform a test of functionality of every piece of equipment as well as to evaluate every piece of equipment for the presence of hazardous substances.

Equipment ***may be suspected of being WEEE*** if it is doubtful whether the equipment is functional and/or whether it is destined for reuse for its original purpose in the country of destination. Doubts may arise e.g. if:

- The packaging is insufficient and does not give proper protection against damage during transportation
- The equipment shows physical damage that could impair its functionality, e.g. burned parts, broken pieces, leakage from batteries, cracked casings etc.
- The equipment is missing essential parts, e.g. cords, batteries, insulation foam and door seals in refrigerators etc.
- The equipment is so worn or damaged that its marketability has been reduced
- It is clearly apparent from the equipment that it has been handed in as WEEE, e.g. the equipment has 'scrap', 'discarded' or 'waste' written on it, or it is apparent from the invoice, contract note or similar that the equipment is waste
- The equipment is so old and outdated that it is only likely to be used as spare parts in the country of destination
- There is not a proper market for the equipment in the country of destination

Checklist for exporters of used equipment – print and keep

CHECK	REQUIREMENTS
	In connection with exports of used electric and electronic equipment, it is your responsibility as an exporter to ***always* ensure that:**
○	1. The used electric and electronic equipment is appropriately protected against damage during transportation and loading by sufficient packaging (see the Danish EPA's guidance document *How to pack used electronics prior to transport*)
	2. The following documents always accompany the shipment:
○	a. A relevant transport document, e.g. a CMR waybill or other waybill
○	b. A declaration from you that you are responsible for the shipment
	If the age or condition of the equipment gives rise to ***doubts or suspicion* as to whether the used equipment is WEEE, you must test the equipment and document its functionality before export. Therefore in these cases, the shipment must be accompanied by the following supplementary documents:**
○	1. A copy of the invoice and contract relating to the sale or transfer of ownership of the used equipment, stating that the equipment is destined for direct re-use and that it is fully functional
○	2. A declaration from you that none of the material or equipment within the shipment is waste
○	3. Documentation on ***test of functionality*** and ***evaluation for the presence of hazardous substances*** for each equipment in the shipment
○	a. For each piece of equipment, there must be a record of the results of the test and the evaluation. These records must contain the following information: • The name of the item, if possible including the name of the equipment from the list in Annexes 1 and 2 of the Danish Statutory Order on placing on the market of electrical and electronic equipment and management of waste electrical and electronic equipment • The name and the address of the enterprise responsible for documenting the functionality • The result and date of the test of functionality and the result of the evaluation of presence of hazardous substances • The nature of the tests performed • If possible, the individual record must also contain information about the production year and an identification number for the equipment
○	b. The individual record must be fixed securely but not necessarily permanently on either the used equipment itself, if not packed, or on the packaging, so that it can be read without unpacking the equipment
○	4. A protocol containing a copy of all of the records for the individual equipment

See pages 14–23 for general as well as equipment-specific guidelines for how to complete tests of functionality and evaluate the presence of hazardous substances. These guidelines may be used to document that a piece of equipment is functional and, therefore, not waste.

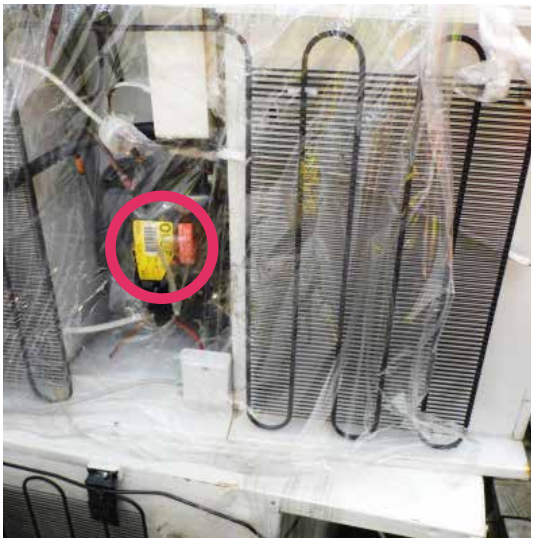
Ban against exports of certain types of used equipment

There is a ban against exporting used equipment such as refrigerators, freezers, air conditioners, ice-boxes and fire extinguishers which contain CFC and HCFC gasses. The banned substances have the following codes:

CFC	
R11	R504
R12	R505
R13	R506
R113	
R114	
R115	
R500	
R501	
R502	
R503	

HCFC	
R21	R402b
R22	R403a
R123	R403b
R124	R406a
R132b	R408a
R141b	R409a
R142b	R409b
R401a	R411b
R401b	R411a
R402a	

You can see which substances are contained within your equipment on the label which is often placed at the back of the equipment or on the equipment's compressor. In the pictures below you can see examples of where to find these codes:



Exemptions from the regulations

In certain situations you can export used electric and electronic equipment that is not functional. In these situations you do not have to meet the requirements for test of functionality and for evaluation of the presence of hazardous substances. Instead, you must provide conclusive proof that the shipment is taking place within the framework of a business-to-business transfer agreement, and that either:

a. the used electric and electronic equipment is sent back to the producer or a third party acting on his behalf as defective for repair under warranty with the intention of re-use; *or*
b. the used electric and electronic equipment is for professional use and is sent to the producer or a third party acting on his behalf or a third-party facility in OECD countries, for refurbishment or repair under a valid contract with the intention of re-use; *or*
c. the defective used electric and electronic equipment for professional use, such as medical devices, is sent to the producer or a third party acting on his behalf, for root cause analysis, under a valid contract.

Used electric and electronic equipment for professional use is equipment which can only be used by professional users in private enterprises. This could be mainframe computers, large servers and large cooling equipment etc. Used electric and electronic equipment which originates from private enterprises but which could also be used by private consumers is not covered by these exemptions from the regulations. This could be equipment such as laptop computers, mobile phones, tablets and flat panels.

If you deem that your shipment may be covered by an exemption from the regulations, you must ensure that the following requirements are met:

1. The used electric and electronic equipment must be appropriately protected against damage during transportation and loading by sufficient packaging (see the Danish EPA's guidance document *How to pack used electronics prior to transport*).
2. The following documents must accompany the shipment:
   - A relevant transport document, e.g. a CMR or waybill
   - A declaration from you that you are responsible for the shipment
   - Documentation that the shipment is a business-to-business transfer, and that one of the three criteria (a–c) for exemption from the regulations has been met

Recommendations regarding exports of used equipment

All used electric and electronic equipment becomes waste at some point. Therefore, the Danish EPA recommends that used electric and electronic equipment is only exported to countries which have appropriate waste management facilities to treat WEEE and the hazardous substances contained in WEEE. In this context, you should always assess whether or not the receiving countries for your shipment have proper waste management facilities. Also you should assess whether the equipment will be used in the country of destination or whether it will be sent directly onward to a non-OECD country. Non-OECD-countries typically do not have proper waste management facilities for WEEE.

It can be difficult to tell whether or not used electric and electronic equipment contains hazardous substances. Or when the hazardous substances are present in a concentration so high that you should avoid export of the used equipment to countries without proper waste management facilities. As a guide for the assessment of the presence of hazardous substances, the Danish EPA recommends that you use the EU regulation that restricts the use of certain hazardous substances in electric and electronic equipment (the RoHS-directive).

This RoHS-directive means that substances such as lead, mercury and cadmium must not be present in new electric and electronic equipment marketed after 1 July 2006 in concentrations above the maximum concentration value. One example of used equipment with a very high presence of hazardous substances is cathode ray tube-screens (CRT's). During the last couple of years many CRT's have been replaced by flat panel displays even though the CRT's are still fully functional.

In order for you to avoid exporting used equipment containing hazardous substances, a rule of thumb can be to refrain from exporting used equipment manufactured before 2006, and also to refrain from exporting used CRT's even though they can pass a test of functionality.

In the table below you can get an overview of the hazardous substances regulated by the RoHS-directive and in which parts of the equipment you typically will find these substances. This indicates which components you should be especially aware of when exporting used equipment:

HAZARDOUS SUBSTANCE	WHERE?
Lead	e.g. old circuit boards and CRT monitors
Mercury	e.g. old thermostats, switches and LCD-displays
Cadmium	e.g. old circuit boards and CRT monitors
Hexavalent chromium	e.g. old metal cabinets for computers
Polybrominated biphenyls (PDB)	previously used as flame retardants in electric and electronic equipment and can be found e.g. mixed in with plastic and foam in all kinds of old electronic equipment, typically in external plastic components and in printed circuit boards
Polybrominated diphenyl ethers (PBDE)	previously used as flame retardants in electric and electronic equipment and can be found e.g. mixed in with plastic and foam in all kinds of old electronic equipment, typically in external plastic components and in printed circuit boards

Annex 1 – Guidelines for test of functionality and evaluation of the presence of hazardous substances

The following guidelines for test of functionality and for evaluation the presence of hazardous substances have been developed on the basis of guidance documents prepared by other EU Member States, standards for re-use of electric and electronic equipment and interviews with professional companies that provide re-use and recycling services. The guidelines have been prepared in collaboration with the other Nordic countries under the Nordic Council of Ministers.

The guidelines are divided into three main categories:

- Evaluation for the presence of hazardous substances
- Test of functionality
- Additional recommended criteria for evaluating whether used electric and electronic equipment is suited for export

Annex 1

Refrigerators and freezers

This guideline specifies the process for test of functionality for refrigerators, freezers and combined refrigerators/freezers and which hazardous substances to be particularly aware of in connection with this type of equipment.

An example of a refrigerator without a door. A door is necessary for functionality

CHECK	TOPIC	TEST	TEST RESULT
EVALUATION FOR THE PRESENCE OF HAZARDOUS SUBSTANCES			
○	CFCs or HCFCs	Check refrigerant and foam type. Equipment containing CFCs or HCFCs is banned from export. Usually the refrigerant type is marked on the back of the equipment or on the compressor. If the refrigerant and/or foam type cannot be ascertained, the equipment should not be reused	The equipment is without CFCs or HCFCs
○	Other hazardous substances	Check the equipment for the presence of hazardous substances and evaluate the risk of damage to the environment if the equipment is exported for reuse It is recommended to evaluate the equipment against the restrictions in the RoHS-directive (see page 12 for more information) Note that refrigerators and freezers may contain brominated flame retardants (e.g. in circuit boards etc.), mercury (in switches etc.)	The presence of hazardous substances has been evaluated, including the risk of damage to the environment if the equipment is exported for reuse In general it is not recommended to export equipment that are not RoHS-compliant out of OECD
TEST OF FUNCTIONALITY			
○	Components necessary for functionality	Visually check that all components are present and without damage, corrosion or serious signs of wear (see picture p. 14 for an example of serious sign of wear): • Cabinet and door • Door seal(s) • Control panel and switches • Compressor and cooling matrix	Present without damage
		Check that the interior wall is not loosened from the cooling matrix (on back) as this will significantly impair the equipment's ability to cool (and will often be difficult and expensive to repair)	Interior wall is connected to the cooling matrix
○	Safety	Visually check power cord, plug and insulation	Complete and intact
		Perform an earth continuity test	Earth continuity OK
		Perform an earth resistance test	Earth resistance OK
		Perform an insulation resistance test	Insulation resistance OK
○	Test of functionality	Perform temperature control at a room temperature of 15–25°C: Place one thermometer in the freezer compartment and one on the top shelf of the fridge compartment Set the thermostat to midway/cold setting. Turn the equipment on and let it run for 12 hours Check that the thermostat works by checking that the compressor starts/stops appropriately according to the temperature settings. A non-functioning thermostat can lead to over-freezing	The compressor starts and cooling begins. The thermostat turns the compressor off when the pre-set temperature is reached (no over-freezing) Acceptance temperatures: Fridge: 0–5°C. 1 star freezer: -6°C (max.). 2 star freezer: -12°C (max.). 3 star freezer: -18°C (max.).
		Test water/ice dispenser (if present) Check that the water supply is connected to the inlet valve on the refrigerator and that the water flows from the dispenser. Check that the ice dispenses from the bucket	Water is dispensed at a suitable flow rate Cubed and crushed (if feature is present) ice is dispensed
RECOMMENDED ADDITIONAL CRITERIA			
○	Complete and functional equipment	Visually check interior parts (shelves, salad compartments etc.)	Present without damage
		Visually check feet	Present without damage
		Check that the internal light turns on and when opening the door and off when closing it	Internal light OK
○	Market value	Evaluate market value and market demand for the specific equipment. Evaluate the technology of the equipment compared with new equipment/new technology	There is market demand for the equipment The technology of the equipment is not obsolete
○	Energy labelling	Check for energy label. If not, you may be able to find the energy label for the relevant equipment on the manufacturer's website	Export for reuse is only recommended for equipment with energy label A or B
○	Hygiene condition	Check interior for moisture, food residues and smell	The equipment's interior is clean, dry and without smell or food residue

Annex 1

Washing machines

This guideline specifies the process for test of functionality of washing machines and which hazardous substances to be particularly aware of in connection with this type of equipment. With a few adjustments (e.g. regarding the program cycles to be tested), the guidelines may also be applied to ***tumble dryers*** and ***dish washers***.

An example of a washing machine which show serious signs of wear. The seal on the door is damaged in such a way that it hinders functionality.

CHECK	TOPIC	TEST	TEST RESULT
EVALUATION FOR THE PRESENCE OF HAZARDOUS SUBSTANCES			
○	Hazardous substances	Check the equipment for the presence of hazardous substances and evaluate the risk of damage to the environment if the equipment is exported for reuse It is recommended to evaluate the equipment against the restrictions in the RoHS-directive (see page 12 for more information) Old (pre 1985) equipment may have PCB capacitors located inside the housing connected to the engine power supply. Equipment from this period must be checked against public databases of the equipment/serial numbers of capacitors. Washing machines may also contain brominated flameretardants (in circuit boards etc.) and mercury (in switches etc.)	The presence of hazardous substances has been evaluated, including the risk of damage to the environment if the equipment is exported for reuse In general it is not recommended to export equipment that are not RoHS-compliant out of OECD
TEST OF FUNCTIONALITY			
○	Components necessary for functionality	Visually check that all components are present and without damage, corrosion or serious signs of wear (see p. 16 for an example of serious sign of wear): • Cabinet and door(s) • Seals on door(s) • Water hoses and connectors • Control panel and switches • Detergent compartment.	Present without damage
○	Safety	Visually check power cord, plug and insulation	Complete and intact without damage
		Perform an earth continuity test	Earth continuity to equipment earth and shell < 0.1 ohm
		Perform an insulation resistance test	Insulation resistance > 2.0 Mohm
		Perform current leakage load test	Measured current draw is according to load
○	Test of functionality	Water pump(s): Open pump house lid and turn pump by hand. Check that the pump turns without abnormal play/slack and resistance	Pump OK
		Drum bearings: Turn drum by hand and check that the drum bearings run smoothly, without noise and without play/slack	Drum bearings OK
		Motor: When the machine is started, check that the motor operates smoothly and quietly	The motor runs smoothly
		Door lock: When the machine is connected, check that the locking/unlocking mechanism of the door/hatch works properly	Door mechanism is OK
		Programs: Connect the machine. Fill the drum with clean textile items. Run it on a full 40°C cycle as a minimum It is recommended to test several different cycles at different temperature settings from 30 to 90°C	• Machine follows program through to the end • Washed textiles are visibly clean and do not have a malodour • The motor runs smoothly • Water pumps in and out properly without overfilling • Water is heated properly according to program setting • Machine takes washing agent • Centrifugation works properly • Machine does not leak water
RECOMMENDED ADDITIONAL CRITERIA			
○	Market value	Evaluate market value and market demand for the specific equipment Evaluate the technology of the equipment compared with to new equipment/new technology	There is market demand for the equipment. The technology of the equipment is not obsolete
○	Energy labelling	Check for energy label. If not present, you may be able to find the energy label for the relevant equipment on the manufacturer's website	Export for re-use is only recommended for equipment with energy label A or B
○	Hygiene condition	Check interior for moisture, smell and waste (e.g. old fabric)	The equipment interior is clean and dry, without smell and waste

Annex 1

Desktop and laptop computers

This guidelines specifies the process for test of functionality for desktop PCs, laptops and notebooks, as well as the hazardous substances to be particularly aware of in connection with this type of equipment. However, monitors, peripherals, servers and network infrastructure such as hubs and switches are not covered. Different types of software can be used to test the functionality of internal components. It is recommended to use approved and certified tools to ensure data eradication.

CHECK	TOPIC	TEST	TEST RESULT
EVALUATION FOR THE PRESENCE OF HAZARDOUS SUBSTANCES			
○	Hazardous substances	Check the equipment for the presence of hazardous substances and evaluate the risk of damage to the environment if the equipment is exported for reuse It is recommended to evaluate the equipment against the restrictions in the RoHS-directive (see page 12 for more information) Computers may contain brominated flameretardants (in circuit boards etc.), mercury bulbs in the screen backlight, etc.	The presence of hazardous substances has been evaluated, including the risk of damage to the environment if the equipment is exported for reuse In general it is not recommended to export equipment that are not RoHS-compliant out of OECD
TEST OF FUNCTIONALITY			
○	Components necessary for functionality	Visually check that all components are present and without damage, corrosion or serious signs of wear (see p. 19 for an example of serious sign of wear): • Cabinet • Screen/monitor (if present) • Switches and keyboard (if present) • Input and output sockets • Charger, cable and plug (if present) • Batteries and battery compartment (if present)	Components necessary for normal use are present and without damage that will hinder functionality
○	Safety	Visually check power cord, plug and insulation	Complete and intact without damage
		Perform an insulation resistance test	Insulation resistance > 2.0 Mohm
○	Test of functionality	It is highly recommended to perform data eradication as a first or integrated step in the test of functionality, preferably by approved and/or certified data eradication programs. When using such software, it must be documented that the software as a minimum tests the functionality requirements described here	
		Internal clock battery: • Check the status of the internal clock batteries	The remaining lifetime of internal clock batteries must be at least one year at normal use
		Laptop and notebook batteries: • Check the battery life by fully charging it, unplugging it from the charger, and performing the tests described below	The fully charged battery should last for the duration of the remaining tests or 1 hour, whichever is the longer

An example of a laptop with serious damages. The screen is damaged in such a way that it hinders functionality.

CHECK	TOPIC	TEST	TEST RESULT
○	Test of functionality	Boot-up test (POST): • Turn on the computer and complete the boot up process to the operating system	The computer should boot up successfully
		Check the following sub-components for functionality: • All drives • Keyboard and mouse input • Cooling fan • CD, DVD, floppy and USB drives • Network ports and/or internal wireless internet connections • Other output and input ports	All functions necessary for normal use of the computer are OK
		Laptop and notebook screen: • Check for 'image retention/persistence' • Check that the LCD backlight is working • Test the picture quality for pixels, colour, contrast and brightness. The picture should not be 'fuzzy' or too dark. Colours, brightness, hue and straightness of lines should be considered Software-based diagnostic tools to test display devices are readily available, and should be used to check flat panels for dead and frozen pixels	The screen shows no sign of image persistence The picture is sharp and not too dark, and there are no damaged pixels. Number and position of dead pixels do not affect normal use. Backlighting is working The result of software-based diagnostic testing is positive
RECOMMENDED ADDITIONAL CRITERIA			
○	Data eradication	Data stored by previous users of the equipment must be deleted permanently using approved and/or certified data eradication software	No user data is contained within the device
○	Equipment specification	The company responsible for the export should define and regularly update its criteria for when a computer has enough capacity to be reused. At present (2015) a minimum recommendation for PCs is processor Pentium 4, 1.4 GHz, 512 MB RAM and 20 GB harddisk	The equipment meets the defined specification criteria
○	Market value	Evaluate market value and market demand for the specific equipment Evaluate the technology of the equipment compared with new equipment/ new technology	There is a market demand for the equipment. The technology of the equipment is not obsolete
○	Dust, dirt and hygiene status	Check exterior cabinet, keyboard etc. for dirt, labels etc. Check internal components for dust, moisture etc., including ventilation fans, grilles, circuit boards, etc.	The equipment interior and exterior is clean and without dust and dirt that can affect the functionality

Annex 1

Computer monitors and TVs

This guideline specifies the process for test of functionality of CRT and flat screens (LCD, LED and plasma), computer monitors and TVs and which hazardous substances to be particularly aware of in connection with this type of equipment.

An example of a CRT-monitor. Export of used CRT's is not recommended due to the content of hazardous substances and obsolete technology.

CHECK	TOPIC	TEST	TEST RESULT
EVALUATION FOR THE PRESENCE OF HAZARDOUS SUBSTANCES			
○	Hazardous substances	Check the equipment for the presence of hazardous substances and evaluate the risk of damage to the environment if the equipment is exported for reuse. It is recommended to evaluate the equipment against the restrictions in the RoHS-directive (see page 12 for more information) Monitors may contain brominated flame-retardants (in circuit boards etc.) and other hazardous substances. CRT monitors (cathode ray tubes) contain hazardous components in the tube (lead, phosphorus, barium, etc.). Flat screen monitors and TVs may contain mercury backlight bulbs	The presence of hazardous substances has been evaluated, including the risk of damage to the environment if the equipment is exported for reuse. In general it is not recommended to export equipment that are not RoHS-compliant out of OECD CRT's are not recommended for export due to hazardous substances and obsolete technology
TEST OF FUNCTIONALITY			
○	Components necessary for functionality	Visually check that all components are present and without damage, corrosion or serious signs of wear: • Cabinet and stand • Screen surface • Switches • Input sockets • Signal and power cords and plugs	Components necessary for normal use are present and without damage that will hinder functionality
○	Safety	Visually check power cord, plug and insulation	Complete and intact without damage
		Perform an insulation resistance test	Insulation resistance > 2.0 Mohm
○	Test of functionality	Software-based diagnostic tools to test display devices are readily available, and should be used to check flat panels for dead and frozen pixels	
		The monitor must be plugged in for a minimum of 10 minutes to reach operational temperature: • Check for 'screen burn' (CRTs) • Check for 'image persistence' (flat screens) • Check that the LCD backlight is working (flat screens) • Test the picture quality for pixels, colour, contrast and brightness The picture should not be 'fuzzy' or too dark. Colours, brightness, hue and straightness of lines should be considered	The screen shows no sign of screen burn or image persistence The picture is sharp and not too dark, and there are no damaged pixels. Number and position of dead pixels do not affect normal use. Backlighting is working Any result of software-based diagnostic testing is positive
RECOMMENDED ADDITIONAL CRITERIA			
○	Market value	Evaluate market value and market demand for the specific equipment Evaluate the technology of the equipment compared to new equipment/new technology	There is a market demand for the equipment. The technology of the equipment is not obsolete
○	Dust, dirt and hygiene status	Check exterior cabinet for dirt, labels etc. Check internal components for dust etc., including ventilation fans, grilles, circuit boards etc.	The equipment interior and exterior is clean and without dust and dirt that can affect the functionality

Annex 1

Mobile phones and tablets

This guideline specifies the process for test of functionality of mobile phones, camera phones, smartphones, tablets and chargers and which hazardous substances to be particularly aware of in connection with this type of equipment.

Different types of software can be used to test the functionality of internal components. It is recommended to use approved and/or certified tools to ensure data eradication.

Examples of mobilephones with serious signs of wear and missing components that hinder functionality.

CHECK	TOPIC	TEST	TEST RESULT
EVALUATION FOR THE PRESENCE OF HAZARDOUS SUBSTANCES			
○	Hazardous substances	Check the equipment for the presence of hazardous substances and evaluate the risk of damage to the environment if the equipment is exported for reuse It is recommended to evaluate the equipment against the restrictions in the RoHS-directive (see page 12 for more information) Mobile devices of newer production date will normally be RoHS compliant	The presence of hazardous substances has been evaluated, including the risk of damage to the environment if the equipment is exported for reuse. In general it is not recommended to export equipment that are not RoHS-compliant out of OECD
TEST OF FUNCTIONALITY			
○	Components necessary for functionality	Visually check that all components are present and without damage and wear that can affect functionality (see p. 22 for examples of serious wear): • Housing and covers • Screen (check for breaks and scratches) • Battery (if available without dismantling the equipment, check for bulging/extensions indicating battery failure) • Switches • Input sockets • Charger and cord (if present)	Components necessary for normal use are present and without damage that will hinder functionality
○	Safety	Visually check power cord, plug and insulation for damage Check that any replacement chargers have the same output characteristics and allow the mobile phone and charger together to conform to all relevant regulatory requirements	Complete and intact without damage Charger meets specification as original
○	Test of functionality	Software-based diagnostic tools to test display devices are readily available, and should be used to check screens for dead and frozen pixels	
		Battery test: • The battery should be charged (by charger or using professional charging and measuring equipment) and tested with a voltmeter to determine whether the battery is functional and holds an appropriate charge	Battery is appropriate for the phone and fits housing correctly The battery accepts and holds a charge for a minimum of 1 hour and operates correctly under usage Battery does not overheat.
		Screen test: • Check that the screen display is visible. The picture should not be 'fuzzy' or too dark	The screen lights up showing the various functions
		Ringing test: • Test that the phone can make and receive calls	A ring tone is heard
		Keyboard test: • Test the keypad and touch screen to check that all keys and all areas of the touch screen are working	The keypad and touch screen respond to input
		Vibration test: • Switch the phone to vibrate and check the mobile to detect this function	The phone vibrates
		Microphone test: • Test the microphone and speaker	The microphone and earpiece/speaker are working
RECOMMENDED ADDITIONAL CRITERIA			
○	Data eradication	Data stored by previous users of the equipment must be deleted permanently using approved and/or certified data eradication software	No user data is contained within the device
○	SIM card lock	Remove SIM card lock and insert SIM cards from different network operators. Turn on the phone and check network connection	The phone locates networks from different network operators. It is not recommended to export used mobilephones that are locked to only one network
○	Factory reset	Check the phone is returned to the factory reset mode and personal data has been removed	All settings returned to factory settings including removing jailbreak software
○	Market value	Evaluate market value and market demand for the specific equipment. Evaluate the technology of the equipment to new equipment/new technology	There is market demand for the equipment. The technology of the equipment is not obsolete
○	Dust, dirt and hygiene status	Check exterior cabinet for dirt, labels etc. Check internal components for dust etc., including ventilation fans, grilles, circuit boards, etc.	The equipment interior and exterior is clean and without dust and dirt that can affect the functionality

Annex 1

General guideline for test of functionality and evaluation of the presence of hazardous substances

For types of electric and electronic equipment where specific guidelines have not been developed, the following guideline can be used.

CHECK	TOPIC	TEST	TEST RESULT
EVALUATION FOR THE PRESENCE OF HAZARDOUS SUBSTANCES			
○	Hazardous substances	Check the equipment for the presence of hazardous substances and evaluate the risk of damage to the environment if the equipment is exported for reuse It is recommended to evaluate the equipment against the restrictions in the RoHS-directive (see page 12 for more information)	Hazardous substances are detected and evaluated for their risk of damage to the environment if the equipment is exported for reuse In general it is not recommended to export equipment that are not RoHS-compliant out of OECD
TEST OF FUNCTIONALITY			
○	Components necessary for functionality	Visually check that all components are present and without damage, corrosion or serious signs of wear that will affect the functionality: • Cabinet, housing and covers • Displays and screens (if present) • Switches • Input and output sockets • Signal and power cords and plugs • Batteries and battery compartment (if present) • Components necessary for functionality	Components necessary for normal use are present and without damage that will hinder functionality
○	Safety	Visually check power cord, plug and insulation	Complete and intact without damage
		Perform an insulation resistance test	Insulation resistance > 2.0 Mohm
○	Test of functionality	Start up the equipment and perform a test of all relevant functions As an exporter, you should develop equipment-specific test criteria for the individual equipment	Equipment performs as intended and according to specified criteria
RECOMMENDED ADDITIONAL CRITERIA			
○	Data eradication	If the equipment contains personal data storage media, sanitising software approved and/or certified to eradicate data stored by previous users should be used	No user data is contained within the device
○	Market value	Evaluate market value and market demand for the specific equipment. Evaluate the technology of the equipment compared to new equipment/new technology	There is a market demand for the equipment. The technology of the equipment is not obsolete
○	Dust, dirt and hygiene status	Check exterior cabinet for dirt, labels etc. Check internal components for dust and dirt, including in particular dust and dirt in e.g. ventilation fans, grilles, circuit boards etc.	The equipment interior and exterior is clean and without dust and dirt that can affect the functionality

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