European Union Network for the Implementation and Enforcement of Environmental Law

WEEE Directive Implementation and Enforcement

WEEE Classification

Date of report:

Report number: 2018/06/3

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the EU Member States, acceding and candidate countries of the European Union and EEA countries. The association is registered in Belgium and its legal seat is in Brussels, Belgium.

IMPEL was set up in 1992 as an informal Network of European regulators and authorities concerned with the implementation and enforcement of environmental law. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. The core of the IMPEL activities concerns awareness raising, capacity building and exchange of information and experiences on implementation, enforcement and international enforcement collaboration as well as promoting and supporting the practicability and enforceability of European environmental legislation.

During the previous years IMPEL has developed into a considerable, widely known organisation, being mentioned in a number of EU legislative and policy documents, e.g. the 7th Environment Action Programme and the Recommendation on Minimum Criteria for Environmental Inspections.

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on both technical and regulatory aspects of EU environmental legislation.

Information on the IMPEL Network is also available through its website at: www.impel.eu

Title of the report:	**Number report:**
WEEE Directive implementation and enforcement: 1. Brominated Flame Retardants in WEEE plastic 2. Annex VI of the WEEE Directive **3. Classification of WEEE**	2018/06/3
Project Manager/Authors: Katharina Aiblinger-Madersbacher (Germany) Marina de Gier (Netherlands)	**Report adopted at IMPEL General Assembly Meeting**:
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Executive Summary

Waste of electrical and electronic equipment (WEEE) is one of the fastest growing waste streams in the EU, with some 12,3 Mt (16,6 kg/inh) generated in the EU 2016 (and 44,7 Mt worldwide), and expected to grow to more than 52,2 Mt in 2021 worldwide (The global E-waste Monitor UNU-IAS, 2017).

WEEE contains a complex mixture of materials and components, which are also partly hazardous. Not properly managed WEEE can cause major environmental and health problems. Also, the production of electronics requires the use of scarce and expensive resources. The improvement of collection, treatment and recycling and avoiding illegal export (to countries with poor treatment facilities) of electronics at the end of their life is essential to contribute to a circular economy.

For the year 2017 and 2018 is chosen to focus this project on brominated flame retardants in WEEE plastic, on Annex VI of the WEEE Directive (minimum requirements for shipments) and the classification of WEEE.

In 2017 two questionnaires have been send out to the participants, one on Annex VI and one on BFR's. In June 2017 a workshop was held in the Netherlands to discuss the outcome of the questionnaires and to present and discuss best practises. In 2018 another workshop was held, discussing BFR's in WEEE plastic, a draft guideline on the inspections of Annex VI of the WEEE Directive, and draft document on the classification of WEEE.

In this report 2018 we will focus on WEEE classification. There will be separate guidance documents on Annnex VI and BFR's in WEEE plastic.

Conclusions regarding WEEE classification

Most participants of the project classified the substances and components from the dismantling of WEEE in the same way. However there exist with regard to some components quite considerable differences. See also Chapter 3 of this report with the outcome of the

survey.
For waste shipment inspections it is very important to agree within the EU Member States as much as possible on the same classification of WEEE.
At least it would be advantageous to publish a compilation document – classification of WEEE (incl. differencies) established by Member States - on the webside of the European Commission (http://ec.europa.eu/environment/waste/shipments/other_documents.htm) for example like the compilation document – Threshold values for contaminants in "green"-listed wastes established by Member States.

Content

Introduction

1.1 Background

Waste of electrical and electronic equipment (WEEE) is one of the fastest growing waste streams in the EU, with some 12,3 Mt (16,6 kg/inh) generated in the EU 2016 (and 44,7 Mt worldwide), and expected to grow to more than 52,2 Mt in 2021 worldwide (The global E-waste Monitor UNU-IAS, 2017).

The new WEEE Directive (2012/19/EU of the European Parlement and the Council of 4 July 2012 on waste electrical and electronic equipment) introduces a collection target of 45% of electronic equipment sold that will apply from 2016 and, as a second step from 2019, a target of 65% of equipment sold, or 85% of WEEE generated. The new collection targets agreed will ensure that around 10 million tons, or roughly 20kg per capita, will be separately collected from 2019 onwards. Article 11 (in combination with with annex V) sets the recycling targets for the different product categories.

WEEE contains a complex mixture of materials and components, which are also partly hazardous. Not properly managed WEEE can cause major environmental and health problems. Also, the production of electronics requires the use of scarce and expensive resources.

The improvement of collection, treatment and recycling and avoiding illegal export (to countries with poor treatment facilities) of electronics at the end of their life is essential to contribute to a circular economy.

For the year 2017 and 2018 is chosen to focus this project on brominated flame retardants in WEEE plastic, Annex VI of the WEEE Directive (minimum requirements for shipments) and classification of WEEE.

For Annex VI and BFR's in WEEE plastic separate guidance documents will be developed. This report is on WEEE classification. This report is follow up of the report of 2017.

One of the results in 2017 of the IMPEL Project "Implementation and Enforcement of the WEEE Directive, including BFR's, was to focus in the follow up of the project also on the classification of WEEE.

German states prepared in the "LAGA-working group" a guidance on the „Implementation of the national WEEE Act" (LAGA Guidance 31B). Annex 3 of this guidance includes a compilation of all potential substances and components deriving from the dismantling of WEEE and proposals for the classification of the WEEE according to the Annexes of the Regulation (EC) No 1013/2006 on shipment of waste.

It generally claims that WEEE has to be classified as hazardous waste unless there has not taken place the removal of hazardous components and/or the existence of hazardous components cannot be excluded.

On the basis of this German compilation the participants of the project discussed the classification of WEEE. The results are summarized under chapter 3.

Reading Guide

Chapter 2 is on the classification of electrical assemblies and electronic scrap as green listed (examples). Chapter 3 contains the results of the discussion during the workshop in 2018 on the classification of WEEE. Chapter 4 contains the main conclusion and recommendations.

The classification of electrical assemblies and electronic scrap as green listed (examples)

Shredded WEEE and shredded components of WEEE cannot be classified any longer under GC020. This entry covers, as the amendments in the parentheses suggest, only not shredded WEEE, not shredded components and not shredded parts of WEEE.

Shredded WEEE shall be classified as not listed and transboundary shipment shall be subject to the procedure of prior written notification and consent.

Possible entries of electrical assemblies and electronic scrap as green listed waste:

GC010 Electrical assemblies consisting only of metals and alloys

GC020 Electronic scrap (e.g. printed circuit boards, electronic components, wire, etc.) and reclaimed electronic components suitable for base and precious metal recovery

B 1010 metal and metal-alloy wastes in metallic, non-dispersible form

B 1115 waste metal cables coated or insulated with plastics, not included on list A1190, excluding those destined for Annex IVA operations or any other disposal operations involving, at any stage, uncontrolled thermal processes, such as open-burnin

Examples:

GC010

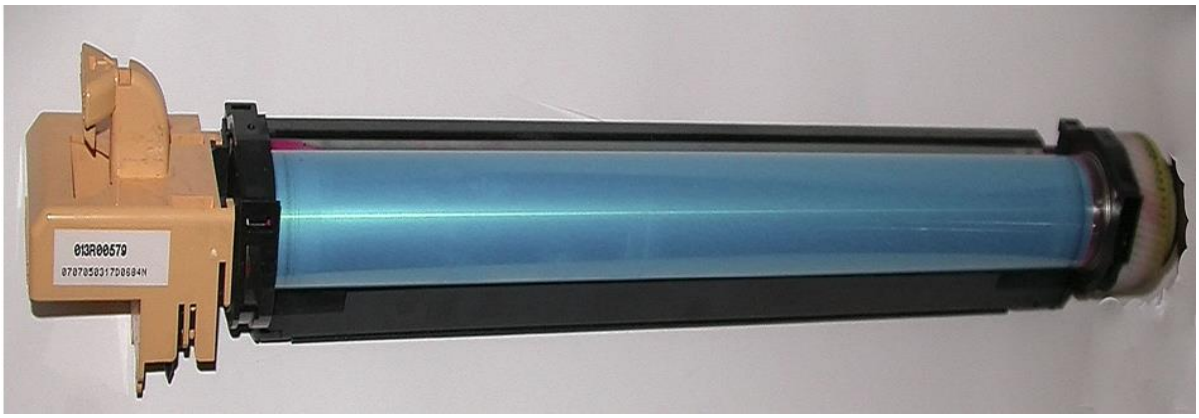
dismantled electric motors

drip-free compressors

GC020

removed power supply units

photo conductor unit not containing hazardoussubstances



toner cartridges not containing hazardoussubstances

printed circuit boards without hazardous components

hard drives

thin film modules

photovoltaic modules with silicon (crystalline, amorphous)

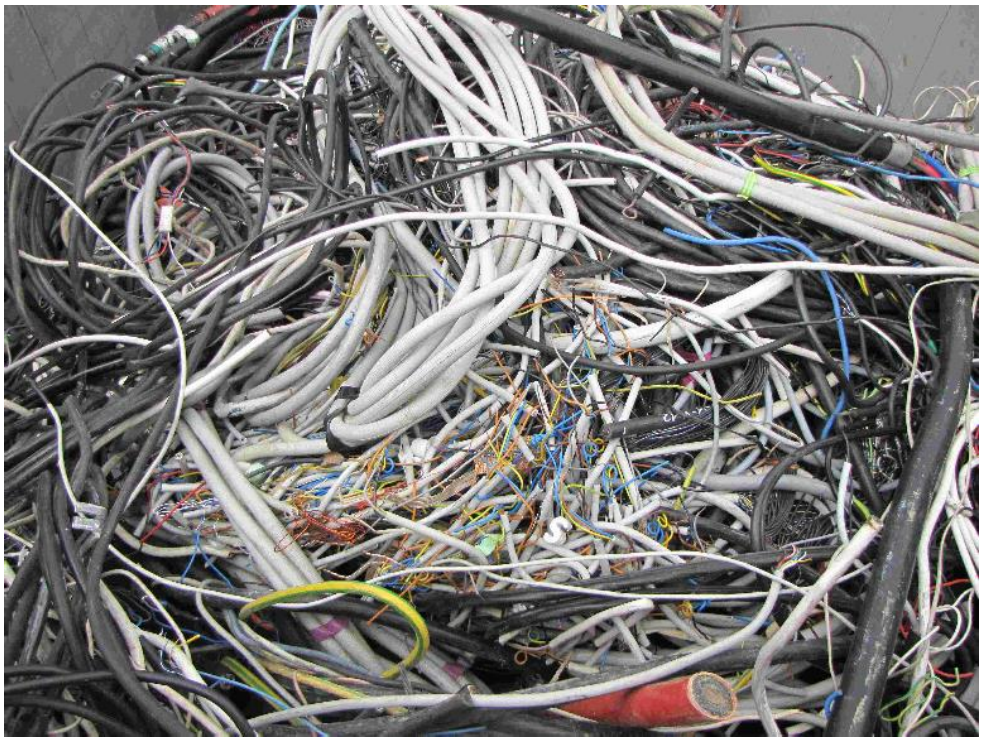
B1010
metal housings of WEEE without hazardous components

metal frames of TVs without glass

-

B1115

cables without plugs



Outcome workshop 2018

3.1 Survey: classification of substances and components from the dismantling of WEEE

During the workshop in 2018 a discussion was held on the classification of WEEE. Herewith the outcome of the discussion.

	waste materials/components	occurrence in electrical equipment (examples)	EC list of wastes (proposal)	entry in Annexes WSR (proposal)	notes	comments entry WSR AT, CZ, FI, NL, PT, SI, UK
1	mercury batteries	watches, alarm clocks, pocket calculators, hearing aid devices, toys, cameras, fitted on printed circuit boards	16 06 03*	A1170		
2A	lithium batteries / -accumulators, e.g. lithium-manganese dioxide batteries	smartphones, mobile phones, cameras, PC (on printed circuit board), devices information and telecommunication technology consumer electronics, wireless devices	classification is still under consideration	B1090[iii] but subject to prior written notification and consent[iv]	deformed, broken or damaged lithium batteries have a high potential of danger (fire)	AT: A1170 or not listed CZ: not listed FI: A1170 or not listed NL:A1170 or not listed (ii) Li-batteries and accumulators contain inter alia lithium (flammable (HP3), corrosive (HP8)), thionyl chloride (corrosive (HP8), acute toxicity (HP6) – used in primary batteries), organic solvents (flammable (HP3)), lithium perchlorate (oxidizing (HP2), irritant (HP4)), lithium tetrafluoroborate (corrosive (HP8)), etc., depending on the specific type of the electrochemical system. Besides these chemical risks all Li-batteries and accumulators are classified as hazardous under the transport regulation and are liable to cause fire and explosion. The electrolytes are usually considered to comprise the main toxicity. Especially the conduct salt LiPF6 forms in contact with water or

						moist air hydrofluoric acid (HF). PT: A1170 or not listed SI: A1170 or not listed; 16 06 05,
2B	lithium accumulators	electric bicycle (e.g. pedelec) and scooter	classification is still under consideration	B1090[iii] but subject to prior written notification and consent		AT: A1170 or not listed CZ: not listed FI: A1170 or not listed NL: A1170 or not listed (ii); s. 2A PT: A1170 or not listed
3	lead accumulators	maintenance-free, locked batteries; stationary emergency power supply systems	16 06 01*	A1160		
4	nickel-cadmium-accumulators	mobile phones; wireless, electric tools and household appliances, camcorders, walkman, torches shaver, flash units	16 06 02*	A1170		
5	alkaline cells; other batteries and	walkman, alarm clock, portable radio, watches, torches, toys	16 06 04 16 06 05	B1090[iii] A1170[v]		AT: A1170 or not listed SI: A1170
6A	mixture of batteries / accumulators No. 1-5 (in this table) with at least one dangerous entry		20 01 33*	A1170	20 01 33* is used alternative for battery mixtures under No. 1-5 in this table, because in group 16 06 no EC code for dangerous battery	
6B	mixture of batteries / accumulators with the exception of those, listed under 20 01 33*		20 01 34	not listed subject to prior written notification and consent	e.g. mixture of 16 06 04 and 16 06 05 or crushed batteries	FI: possibly also B1090 (not-haz aspects) SI: not listed

7	mercury-containing components (no gas discharge lamps)	switches in steam irons, coffee machines, hot water units, cooling units as well as in heat exchangers, boilers, barometers, hygrometers, pressure gauge, thermometer, blood pressure monitors, fitted on printed circuit boards,	16 02 15*	A1030	identification of these components e.g. visible, liquid mercury in small glass bulb or electronic components with indication "Arrow" (flow direction of mercury) and/or the name "Mercury" on the part; non-destructive removal essential	
8A	electrolytic capacitors	in numerous electrical appliances with batteries and accumulators	16 02 15* 16 02 16	A4090 or A1180 or not listed?	non-destructive removal (> 25 mm) essential *electrolytic capacitors contain organic or inorganic acids with different solvents and corrosion protection additives and therefore if necessary water pollutants* As a rule unknown ingredients are available, the classification as 16 02 15* should be done.	AT: A1180 or not listed CZ: A1180 FI: A1180 NL: not listed PT: A118
8B	electrolyte from batteries and		16 06 06*	A4090		SI: A4090
9A	PCB containing capacitors	fluorescent lamps, extractor hoods, washing machines, dishwashers; oil burner	16 02 09*	A3180	PCB-containing capacitors always exceed more than 50 mg / kg of PCBs based on the PCB containing fluid / non-destructive removal essential	
9B	insulting and heat transfer oils, which contain PCB	old oil-filled radiators (heat exchanger)	13 03 01*	A3180		
10	small electrical appliances with	vacuum cleaner, fryers, iron, toaster, hair dryer	16 02 12*	A2050		NL: not listed
11A	asbestos-containing	night storage heaters, storage	16 02 12*	A2050		NL: not listed

	night storage devices and other large appliances	heaters, electric cookers				
11B	night storage heaters with artificial mineral fibers and / or chromium(VI) containing mineral medium		16 02 13*	not listed subject to prior written notification and consent	artificial mineral fibers (AMF) are classified as hazardous (placing on the market before 6/2000). AMF later brought into circulation can be classified as not hazardous (16 02 14)	SI: not listed
11C	night storage heaters free of hazardous substances and		16 02 14	GC 020 or not listed?		FI: not listed NL: not listed SI: not listed UK: not listed
12A	asbestos and asbestos-containing components	storage water heater, electric cookers, oven,	16 02 15*	A2050		NL: A2050 or not listed
12B	mineral wool	night storage heaters, cookers, storage water cooling devices	16 02 15* 16 02 16	not listed subject to prior written notification and consent or in cases similar to asbestos: RB020	before 2000 manufactured glass / stone / slag wool can probably generate cancer	
12C	artificial mineral fibres	storage water heater, cookers, oven, iron, toaster,	16 02 15* 16 02 16	not listed subject to prior written notification and consent	artificial mineral fibres also enclose ceramic fibers. Old devices, placed on the market before 01.06.2000 have a carcinogenic property (inhalation can produce cancer)	
13	mineral heat storage medium	night storage heaters, block	16 02 15* 16 11 05*	not listed subject to prior written notification and	older stones (differs from model to model and manufacturer) contain chromium(VI) compounds.	

				consent	There is no general date of manufacture, since when heat storage stones are chromium- free.	
14	cathode-ray tube, LCD glass, glass with impurities	picture tubes (monitors, flatscreens	16 02 15*	A2010		SI: A2010 AT: A2010, LCD glass: hazardous for pieces with a size of more than 100 cm2
14A	glass waste	PV modules, wafers	16 02 15*	A1180		AT: A1180 for photovoltaic modules combination cells, as well as wafers containing e.g. gallium arsenide, cadmium telluride, /selenide, indium phosphide NL: not listed SI: A1180 or not listed UK: not listed
15	luminescent from picture tubes	monitors, televisions	19 02 11* 19 02 05*	not listed subject to prior written notification and consent		
16	glass waste (not falling under no. 14)	large household appliances, depolluted: LCD glass / plasma glass, screen glasses without neck, lamp glass, PV modules	19 12 05	B2020		
17	iron and steel waste		19 10 01 19 12 02	B1010		
18	aluminium waste		19 10 02 19 12 03	B1010		
19	other non-ferrous metal-bearing wastes		19 10 02 19 12 03	B1010		

	(e.g. copper, zinc, bronze, brass) without aluminium and magnesium					
20	chromium VI-containing ammonia water solution	absorption cooling units	14 06 03*	A4140 or not listed?	sodium chromate acts as corrosion inhibitor	NL: not listed SI: A4140/A4090/not listed (depending on the source)
21	CFCs, H-CFCs, H-PFCs (such as R11, R12, R134a, R22)	refrigerators, freezers and air conditioning units, heat pumps from private and commercial origin	14 06 01*	AC150		
22	compressors from CFC-, PFC- or HC-containing cooling equipment	refrigerators, freezers and air conditioning units, heat pumps from private and commercial origin (heat exchanger)	16 02 15* 16 02 16	AC150 AC150	only drip-free compressors can be classified as non-hazardous waste. Export restrictions of dismantled and residual emptied compressors, which originally contained fully halogenated CFCs acc. to Regulation (EC) No 1005/2009; compressors should also been made	CZ: AC150 NL: not listed SI: AC150
23A	insulation foams (PU), CFC-containing (fully / partly halogenated)	refrigerators, freezers and air conditioning units, heat pumps from private and commercial origin (heat exchanger)	19 12 11*	not listed subject to prior written notification and consent	CFCs were used in the production of refrigerators at least until 1993 as refrigerant and propellant	
23B	insulation foams (PU) containing cyclopentane	refrigerators, freezers and air conditioning units, heat pumps from private and commercial origin (heat exchanger)	19 12 11*	not listed subject to prior written notification and consent		
23C	vacuum isolation panels (VIP)	refrigerators and freezers with high energy efficiency	19 12 11*	not listed subject to prior	VIP are highly efficient thermal insulation panels	

		A ** and A *** (Heat exchanger)		written notification and consent	contain e.g. mineral fibres or powdered, amorphous silicon dioxide (silica gel). VIPs are used since about 2010 in the production of the insulating layer of cooling devices and are applied always together with the cyclopentane foams	
23D	insulation material (polystyrene, artificial mineral fibres, mineral wool, glass wool)	refrigerators, freezers and air conditioning units, heat pumps from private and commercial origin (heat exchanger)	16 02 15*. 16 02 16 19 12 11* 19 12 12	not listed subject to prior written notification and consent		
24	cyclopentane	refrigerators, freezers and air conditioning units	14 06 03* 14 06 01*	A4140 or not listed?	the escape of cyclopentane into the atmosphere must be avoided, because cyclopentane is a precursor chemical for the formation of ground-level ozone; recovery operation R1	SI: A4140/not listed NL: not listed
25A	machine, gear and lubricating oils (excluding PCB-containing insulating and heat transmission oils)	CFC-, PFC- or HC-refrigerators, div. electric and electronic equipment, NH_3 systems for commercial refrigeration systems	13 02 04* 13 02 05* 13 02 06* 13 02 07* 13 02 08*	A3020		
25B	PCB-containing insulating and heat transmission oils	oil-filled radiators	13 03 01*	A3180		
25C	PCB-free insulating and heat transmission oils	oil-filled radiators	13 03 06* 13 03 07* 13 03 08* 13 03 09* 13 03 10*	A3020		

26A	non-hazardous plastics (mixed plastics or pure-grade plastics)	multitude of newer devices without brominated flame retardants (BFR), without PCBs, without phthalates)	19 12 04 16 02 16	B3010	separation of plastics containing BFRs and other hazardous substances is necessary	AT: not listed if the mixed plastics contain > 10% other not hazardous wastes and thereof not more than 5% PVC and 1% treated wood SI: not listed – if no separation of plastics containing BFR
26B	plastics (mixed plastics pure-grade plastics) containing BFRs	backs out of television sets and monitors with CRT, units of information and technology, tools	19 12 04 16 02 16	B3010 but subject to written notification consent[iv]	each plastic output deriving from WEEE recovery facilities has to be classified as not listed due to the possible presence of BFRs Recovery operation R1	AT: not listed if Br content > 2.000 mg/kg, but not hazardous; thresholds for hazardous criteria referring to chemical characteristics of the specific POP are not reached CZ: not listed FI: not listed NL: B3010 or not listed (ii) PT: not listed SI: not listed UK: not listed
26C	plastics (mixed plastics pure-grade plastics), which contain acc. the list of wastes which are classified as hazardous (e.g. PCBs or plasticizer)	backs out of television sets and monitors with CRT, units of information and technology, tools	19 12 11* 16 02 15*	B3010 but subject to written notification consent[iv] A3180 for PCB		AT: CZ: not listed FI: not listed NL: B3010 or not listed (ii) PT: not listed SI: not listed UK:
27	cables incl. plugs	all electrical and electronic equipment	16 02 15* 16 02 16	A1190 B1115 (non-aspect)	cable plugs can contain hazardous BFRs	SI: A1190/not listed:
28	plastics from cables (sheath)		19 12 04	B3010 (non-haz aspect)		AT: not listed if the mixed plastics contain > 10% other not hazardous wastes and thereof not more than 5% PVC and 1% treated wood CZ: not listed

			19 12 11*	B3010 but subject to written notification consent[iv]	cables can contain hazardous BFRs and/or plasticizers (phthalates)	FI: not listed NL: not listed PT: SI: not listed /B3010 depending on the level of pre-treatment UK: not listed /B3010 depending on the level of pre-treatment
29A	filter dust from the mechanical shredding metal containing electrical and equipment	large household appliances, household appliances	19 10 03* 19 10 04	A3120[x] not listed subject to written notification consent		SI: A3120 / not listed; 19 12 11*/19 12 12 NL: not listed
29B	FLUFF – light fraction from shredding	large household appliances, household appliances	19 10 03* 19 10 04	A3120[x] not listed subject to written notification consent		SI: A3120 / not listed; 19 12 11*/19 12 12 NL: not listed FI: also 19 12 11*/ 19 12 12
30	industrial waste	mixtures from dismantling	19 12 11* 19 12 12	not listed subject to written notification consent		
31	wood waste	cases of radios, TVs, record players	19 12 06* 19 12 07	AC170		
32	solid grease- and oil-contaminated resources	wiping cloths, filter material, oil binder	15 02 02*	not listed subject to written notification consent		
33A	photo conductor unit containing cadmium or	copy machines, fax machines and laser printer	16 02 15*	A1020		

	selenium					
33B	photo conductor unit, contaminant-free	copy machines, fax machines and laser printer	16 02 16	GC020		NL: GC010 SI: A1180/GC020 if no hazardous components
33C	toner cartridges, mono and color toner	copy machines, fax machines and laser printer	16 02 15* 16 02 16	A1180 GC020	liquid and pasty toner can contain solvents which have to be classified as hazardous waste	NL: not listed/ GC020 if no hazardous components SI: A1180/GC020 if no hazardous components
33D	ink cartridges	inkjet printer, plotter, fax machines, postage meter	16 02 15* 16 02 16	A1180 GC020		NL: not listed/ GC020 if no hazardous components SI: A1180/GC020 if no hazardous components
33E	toner dust	copy machines, fax machines, laser printer, toner cartridges, photo conductor drums, waste	08 03 17* 08 03 18	A1180 GC020?		SI: A1180/not listed NL: not listed
34	printed circuit boards	electronic devices	16 02 15 * 16 02 16	A1180 GC020	classification as hazardous waste is no longer necessary, if hazardous components have been completely removed	NL: not listed/ GC020 if no hazardous components
35	hard drives, floppy disk drives	PCs, laptops, electronic notebooks	16 02 14	GC020		NL: GC020 (internal); not listed (external)
36	power supplies	information technology equipment, consumer	16 02 14	GC020		
37	gas discharge lamps (fluorescent tubes, cold cathode fluorescent lamp (CCFL), energy-saving lamps, mercury containing background lighting from liquid crystal	information technology equipment, consumer electronics, flat screens, laptop, scanner, copy machine, luminous sources	20 01 21* 16 02 15*	A1030	fluorescent lamps have to be stored and transported shatterproofed; release of mercury has to be prevented	

38	liquid crystal displays (LCDs)	household appliances, information technology equipment, flat screens, smartphone, tablets, laptop	16 02 15* 16 02 16	A1030 or A2010	LCDs with mercury containing background lighting (CCFL) have to be classified as hazardous waste	AT: A2010, hazardous for pieces with a size of more than 100 cm2 SI: A1180/A2010 (only panels) NL: not listed UK: A1030
39A	photovoltaic modules with silicon (crystalline, amorphous)	PV modules as stand-alone devices for power generation	20 01 36 16 02 14	GC020?		AT: A1180 for photovoltaic modules and combination cells, as well as wafers containing e.g. gallium ardenide, cadmium telluride/selenide, indium phosphide NL: not listed SI: A1180/unlisted/GC020 (contains In, Se,Cd…..) UK: not listed
39B	thin film modules (e.g. cadmium telluride (CdTe) with/without cadmium sulfide (CdS), copper indium gallium (di)selenide (CIGS), copper		20 01 36 16 02 14 16 02 13*	GC020?		AT: A1180 for thin film modules and combination cells, as well as wafers containing e.g. gallium arsenide, cadmium telluride/selenide, indium phosphide SI: A1180/not listed UK: not listed NL: not listed:
39C	waste glass in small particles and glass powder (containing (CdS -		10 11 11* 10 11 12	A2010 B2020		SI: A2010/not listed/B2020 **Formatiert:** Hervorheben

NL: [ii]: The header of Annex III states: Regardless of whether or not wastes are included on this list, they may not be subject to the general information requirements laid down in Article 18 if they are contaminated (1) by other materials to an extent which

increases the risks associated with the wastes sufficiently to render them appropriate for submission to the procedure of prior written notification and consent, when taking into account the hazardous characteristics listed in Annex III to Directive 91/689/EEC;

(1) The expression "contaminated" also coffers waste where hazardous components has been added deliberately.

[iii] this entry applies only when the batteries are sorted

[iv] according to the chapeau of the green list (annex III of the WSR) the risks are so far increased that the waste here referred to (e.g. lithium batteries, plastics with brominated flame retardants classified as dangerous , PCBs, phthalates) regardless of the code is subject to prior written notification and consent

[v] this entry applies only for mixtures of batteries

[x] corresponding 19 10 03*

4. Conclusions and recommendations

Most participants of the project classified the substances and components from the dismantling of WEEE in the same way. However there exist with regard to some components quite considerable differences.

For waste shipment inspections it is very important to agree within the EU Member States as much as possible on the same classification of WEEE.

At least it would be advantageous to publish a compilation document – classification of WEEE (incl. differencies) established by Member States - on the webside of the European Commission (http://ec.europa.eu/environment/waste/shipments/other_documents.htm) for example like the compilation document – Threshold values for contaminants in “green”-listed wastes established by Member States -.

Annex 1: Compilation Document “Threshold values”

Threshold values for contaminants in "green"-listed wastes established by Member States

A Compilation Document

February 2016

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1. Austria

Threshold Table for contaminants in green-listed waste

Code	WASTE	Allowed impurities on an average basis in mass %	Allowed impurities in single loads in mass %	Content of pure sub-stance in single loads in mass%
B1010	METAL SCRAP	8 % of non-metallic non-hazardous Impurities	10%	Min. 90% metal
B1010	IRON SCRAP from waste incinerators	From the totally allowed impurities of 8% of non-metallic waste, at max. 5% waste incinerator slag	8% incinerator slag (from the totally allowed 10% of impurities in single loads)	Min 90% metal
B1020	METAL SCRAP	8 % of non-metallic non-hazardous impurities	10%	Min. 90% metal
B1050	HEAVY SHREDDER FRACTION	8 % of non-metallic , non-hazardous impurities	10%	Min. 90% metal
METAL SCRAP on Annex IIIA	METAL SCRAP	8 % of non-metallic non-hazardous impurities	10%	Min. 90% metal
B2020	GLASS	8% of non-hazardous components such as plastic, paper, metal, wood minerals	10%	Min. 90% glass
B3010	PLASTICS	10% of non-hazardous non-plastics including also PVC as impurity	10%	Min. 90% plastic
GH013	PVC	10% of non-hazardous non-plastics	10 %	Min 90% plastic
B3020	PAPER	Carbonless copy paper and carbon paper fractions are NOT GREEN LISTED, but AMBER: AD090		
		MINIMUM METALLIC CONTENT on average basis	**MINIMUM METALLIC CONTENT in single loads**	
B1100	Aluminium skimmings, excluding salt slag	45%	40,5%	
B1100	Zinc skimmings	45%	40,5%	

2. Belgium

No threshold values established. Decisions are taken on a case-by-case basis.

3. Bulgaria

No information available.

4. Croatia

The following criteria for the classification of 'green'-listed wastes are prescribed in the Croatian Ordinance on Waste Catalogue (Official Gazette no. 90/15).

Remark: all specific percentages of hazardous substances or allowed constituents should be understood as percentage by weight.

Dispersed waste means waste with particles smaller than 100 µm.

Thresholds according to substance contained in waste

The substance contained in waste		**Thresholds when waste has to be classified as Amber listed waste or not classified waste**
Heavy metals and heavy metal compounds	Mercury and mercury compounds	> 0
	Nickel in dispersible form	1%
	Nickel oxides	0,1%
	Beryllium oxides	0,1%
	Cadmium oxides and compounds	0,1%
	Lead compounds	0,5%
Persistent organic pollutants (POP)	PCB/PCT	0,005%
	PCDD/PCDF	15 µg TEQ/kg
	Other POP compounds	0,005%
Hydrocarbons (e.g. mineral oils)		1%

Thresholds according to impurities in each type of waste

Waste code	Waste description	Impurities in waste	Thresholds when waste has to be classified as Amber listed waste or not classified waste
B1010	Iron and steel waste	Non-hazardous non-metallic substances that do not influence recovery procedures	8% (single batches 10%)
	Iron and steel waste from the incineration facilities	Slag from waste incineration	5% (single batches 8%)
B1050	Mixed non-ferrous metal waste, heavy fraction	Non-hazardous non-metallic substances that do not influence recovery procedures	8% (single batches 10%)
B1090	Waste batteries	All batteries are classified as waste subject to the notification procedure	
B1100	Hard metal zinc	-	Content of metal zinc less than 45% (single batches less than 40,5%)
	Zinc skim		
	Aluminum shavings and skim	-	Content of metal aluminum less than 45% (single batches less than 40,5%)
B2020	Waste glass	Non-hazardous, undesirable admixtures that do not influence recovery procedures (plastics, metal, paper, wood, minerals etc.)	5%
B2130	Bituminous material (asphalt waste), not containing tar	Benzopyrene	50 mg/kg dry matter
		PAHs	300 mg/kg dry matter
B3010; Mixtures listed under code B3010	Waste plastic	Non-hazardous, undesirable admixtures that do not influence recovery procedures	5%
GH013	Polymers of vinyl chloride	Non-hazardous, undesirable admixtures or other types of Green listed waste	5%
B3020; Mixtures listed under code B3020	Waste paper and cardboard	Non-hazardous, undesirable admixtures that do not influence recovery procedures	2%
B4030	Used single use cameras	Batteries	All batteries are classified as waste subject to the notification procedure

5. Cyprus

No information available.

6. Czech Republic

No information available.

7. Denmark

Green-listed waste	Threshold value of contaminants
B1010	For B1010 Metal and metal-alloy wastes in metallic, non-dispersible form without significant contamination, i.e. **no more than 5% contaminants** (estimated mass). Contamination may not be in the form of hazardous waste. Note that the percentage limit is for guidance purposes only. For ferrous metals removed from bottom ash may have a maximum of 3% slag.
B1050	For B1050 Mixed non-ferrous metals, heavy fraction scrap, and mixtures of metal and wastes from shredding not containing other materials in concentrations sufficient to warrant hazardous classification. The mixed non-ferrous metals may not be contaminated by more than 10% (estimated mass) with, for example, plastic, soil and wood. Contamination may not be in the form of hazardous waste. Note that the percentage limit is for guidance purposes only.

8. Estonia

No information available.

9. Finland

No official values are established. General limit for allowed impurities is 10 % of weight.

10. France

No information available.

11. Germany

No threshold values established; decisions on a case-by-case basis.

12. Greece

No information available.

13. Hungary

No information available.

14. Ireland

No information available.

15. Italy

No information available.

16. Latvia

No official threshold values established. Decisions are taken on a case-by-case basis.

17. Lithuania

No information available.

18. Luxembourg

No information available.

19. Malta

No information available.

20. Netherlands

Green-listed waste	Threshold value of contaminants
B3020	– max. 2% w/w other materials – may not contain any hazardous substance – is stripped of food residues / organic material, burned paper – moisture in paper max 12%
B3010	– max. 2% w/w other materials, including PVC; – may not contain any hazardous substance
GH013	– max. 2% w/w other materials, including non-PVC plastics – may not contain any hazardous substance
B1010, B1050	max. 10% w/w other materials; B1010 and B1050 may not contain: (a) explosives like ammunition, blasting materials, sealed gas cylinders; (b) radioactive substances, nuclear fuels and ores as mentioned in the Nuclear Power act; (c) hazardous substances with exception of adhering oil which may contain max. 0.5 mg/kg PCB per congener 28, 52, 101, 118, 138, 153 or 180; B1010 and B1050 is as much as possible stripped of: (a) PVC derived from cables and from electrical or electronic equipment; (b) CFK containing PUR foam; (c) electrical and electronic devices unless they consists of 100% iron or steel; (d) tar-mastic; (e) not completely emptied packaging; (f) refrigerants
For the relevant policy rule (in Dutch), click **here**.	

21. Poland

No information available.

22. Portugal

No information available.

23. Romania

No information available.

24. Slovakia

Slovakia does not have any national limits for substances that make the difference between Green listed and Amber listed wastes.

25. Slovenia

No official values established.

26. Spain

No information available.

27. Sweden

No information available.

28. United Kingdom

No information available.

29. EFTA countries

No information available.