EUROPEAN
COMMISSION

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ANNEXES 1 to 3

ANNEXES

to the

Implementing Regulation

laying down rules for the application of Regulation (EU) 2023/1542 as regards the format for the reporting of data as well as assessment methods and operational conditions for the collection and treatment of waste batteries

ANNEX I

Table 1

Portable batteries

	1	2	3	4
Battery chemistries	Portable batteries made available on the market for the first time in the Member State	Total waste portable batteries collected	Waste portable batteries exported to third countries for recycling, preparation for recycling, preparation for re-use or preparation for repurposing[3]	Waste portable batteries collection rate in accordance with Annex XI of Regulation (EU) 2023/1542
	(tonnes)	(tonnes)	(tonnes)	(%)[4]
1. Lithium-based				
2. Lead-acid				
3. Nickel-cadmium				
4. Others (please specify)[1]				
5. Total				
6. Non-rechargeable portable batteries included in the total (voluntary)[2]				

Not applicable

[1] 'Others' means any other battery chemistries not already listed, including an entry for mixed waste batteries if applicable.

[2] Member States may provide this information on a voluntary basis.

[3] The amount of waste batteries exported in a reporting year may comprise temporarily stored waste batteries collected in the Member State in previous reporting years.

[4] Collection rate to be indicated with one decimal place.

Table 2

Light means of transport (LMT) batteries

	1	2	3	4
Battery chemistries	LMT batteries made available on the market for the first time in the Member State	Total waste LMT batteries collected	Waste LMT batteries exported to third countries for recycling, preparation for recycling, preparation for re-use or preparation for repurposing[2]	Waste LMT batteries collection rate in the reporting year in accordance with Annex XI of Regulation (EU) 2023/1542
	(tonnes)	(tonnes)	(tonnes)	(%)[3]
1. Lithium-based				
2. Lead-acid				
3. Nickel-based				
4. Others (please specify)[1]				
5. Total				

[1] 'Others' means any other battery chemistries not already listed, including an entry for mixed waste batteries if applicable.

[2] The amount of waste batteries exported in a reporting year may comprise temporarily stored waste batteries collected in the Member State in previous reporting years.

[3] Collection rate to be indicated with one decimal place.

Table 3

Starting, lighting and ignition (SLI) batteries

	1	2	3
Battery chemistries	SLI batteries made available on the market for the first time in the Member State	Total waste SLI batteries collected	Waste SLI batteries exported to third countries for recycling, preparation for recycling, preparation for re-use or preparation for repurposing[2]
	(tonnes)	(tonnes)	(tonnes)
1. Lead-acid			
2. Lithium-based			
3. Others (please specify)[1]			
4. Total			

[1] 'Others' means any other battery chemistries not already listed, including an entry for mixed waste batteries if applicable.

[2] The amount of waste batteries exported in a reporting year may comprise temporarily stored waste batteries collected in the Member State in previous reporting years.

Table 4

Industrial batteries

	1	2	3	4	5
Battery chemistries	Industrial batteries made available on the market for the first time in the Member State	Total waste industrial batteries collected	Waste industrial batteries delivered to permitted facilities for preparation for re-use[2]	Waste industrial batteries delivered to permitted facilities for preparation for repurposing[2]	Waste industrial batteries exported to third countries for recycling, preparation for recycling, preparation for re-use or preparation for repurposing[3]
	(tonnes)	(tonnes)	(tonnes)	(tonnes)	(tonnes)
1. Lithium-based					
2. Lead-acid					
3. Nickel-cadmium					
4. Others (please specify)[1]					
5. Total					

[1] 'Others' means any other battery chemistries not already listed, including an entry for mixed waste batteries if applicable.

[2] The amount of waste batteries delivered to permitted facilities in a reporting year may comprise temporarily stored waste batteries collected in the Member State in previous reporting years.

[3] The amount of waste batteries exported in a reporting year may comprise temporarily stored waste batteries collected in the Member State in previous reporting years.

Table 5

Electric vehicle (EV) batteries

	1	2	3	4	5
Battery chemistries	EV batteries made available on the market for the first time	Total waste EV batteries collected	Waste EV batteries delivered to permitted facilities for preparation for re-use[2]	Waste EV batteries delivered to permitted facilities for preparation for repurposing[2]	Waste EV batteries exported to third countries for recycling, preparation for recycling, preparation for re-use or preparation for repurposing[3]
	(tonnes)	(tonnes)	(tonnes)	(tonnes)	(tonnes)
1. Lithium-based					
2. Nickel-based					
3. Others (please specify)[1]					
4. Total					

[1] 'Others' means any other battery chemistries not already listed, including an entry for mixed waste batteries if applicable.

[2] The amount of waste batteries delivered to permitted facilities in a reporting year may comprise temporarily stored waste batteries collected in the Member State in previous reporting years.

[3] The amount of waste batteries exported in a reporting year may comprise temporarily stored waste batteries collected in the Member State in previous reporting years.

Table 6

Recycling efficiency rate per battery chemistry

Battery chemistry	Total input (tonnes)	Total output (tonnes)	Recycling efficiency rate (%)
Lead-acid batteries			
Lithium-based batteries			
Nickel-cadmium batteries			
Other waste batteries			

Table 7

Recovery of materials rate per material

Material	Total input (tonnes)	Total output (tonnes)	Recovery of materials rate (%)
Cobalt (Co)			
Copper (Cu)			
Lead (Pb)			
Lithium (Li)			
Nickel (Ni)			

ANNEX II

Table 1

Recycling efficiency and recovery of materials of lead-acid batteries

				1		
				Total weight in the reporting year (tonnes)		
	1	Waste lead-acid batteries delivered for recycling				
Input: Fractions that are counted as input into the recycling process	2	Lead (Pb)				
	3	Dry sulphuric acid (H_2SO_4)				
	4	Plastics				
	5	Steel				
	6	Others (please specify)[1]				
	7	**Total**				
				2	3	4
Output: Fractions that are counted as output of the recycling process which account for the recycling efficiency rate and recovery of materials rate		**Fraction**		**Output generated in Member States (tonnes)**	**Output generated in third countries with confirmed equivalent conditions (tonnes)[2]**	**Total output (tonnes)**
	8	Lead (Pb)				
	9	Dry sulphuric acid (H_2SO_4)				
	10	Plastics				
	11	Steel				
	12	Others (please				

		specify)[1]				
	13	**Total**				
[1] Add other cells if necessary to specify other elements or compounds.						
[2] In accordance with Article 72(3) of Regulation (EU) 2023/1542.						
Row 7: Sum of values from rows 2 to 6.						
Row 13: Sum of values from rows 8 to 12.						

Table 2

Recycling efficiency and recovery of materials of lithium-based batteries

			1
			Total weight in the reporting year (tonnes)
	1	Waste lithium-based batteries delivered for recycling	
Input: Fractions that are counted as input into the recycling process	2	Cobalt (Co)	
	3	Copper (Cu)	
	4	Lithium (Li)	
	5	Nickel (Ni)	
	6	Manganese (Mn)	
	7	Aluminium (Al)	
	8	Steel	
	9	Plastics	
	10	Oxygen (O_2)	
	11	Carbon from carbon sources at cell level (C)	
	12	Iron from iron sources at cell level (Fe)	
	13	Phosphorus (P)	
	14	Chlorine (Cl)	
	15	Sulphur (S)	
	16	Others (please specify)[(1)]	
	17	**Total**	

				2	3	4
Output: Fractions that are counted as output of the recycling process which account for the recycling efficiency rate and recovery of materials rate		**Fraction**		**Output generated in Member States (tonnes)**	**Output generated in third countries with confirmed equivalent conditions (tonnes)[(2)]**	**Total output (tonnes)**
	18	Cobalt (Co)				
	19	Copper (Cu)				
	20	Lithium (Li)				
	21	Nickel (Ni)				
	22	Manganese (Mn)				
	23	Aluminium (Al)				
	24	Steel				
	25	Plastics				
	26	Oxygen (O_2)				
	27	Carbon from carbon sources at cell level (C)				
	28	Iron from iron sources at cell level (Fe)				
	29	Phosphorus (P)				
	30	Chlorine (Cl)				
	31	Sulphur (S)				
	32	Others (please specify)[(1)]				
	33	**Total**				
[(1)] Add other cells if necessary to specify other elements or compounds.						
[(2)] In accordance with Article 72(3) of Regulation (EU) 2023/1542.						
Row 17: Sum of values from rows 2 to 16.						

Row 33: Sum of values from rows 18 to 32.					

Table 3

Recycling efficiency and recovery of materials of nickel-cadmium batteries

			1		
			Total weight in the reporting year (tonnes)		
	1	Waste nickel-cadmium batteries delivered for recycling			
Input: Fractions that are counted as input into the recycling process	2	Cobalt (Co)			
	3	Copper (Cu)			
	4	Lead (Pb)			
	5	Lithium (Li)			
	6	Nickel (Ni)			
	7	Manganese (Mn)			
	8	Aluminium (Al)			
	9	Steel			
	10	Electrolyte (KOH)			
	11	Electrolyte (NaOH)			
	12	Plastics			
	13	Cadmium (Cd)			
	13	Others (please specify)[1]			
	14	**Total**			
			2	3	4
Output: Fractions that are counted as output of the recycling process which		**Fraction**	**Output generated in Member States (tonnes)**	**Output generated in third countries with con-**	**Total output (tonnes)**

account for the recycling efficiency rate and recovery of materials rate				**firmed equivalent conditions (tonnes)[2]**	
	15	Cobalt (Co)			
	16	Copper (Cu)			
	17	Lead (Pb)			
	18	Lithium (Li)			
	19	Nickel (Ni)			
	20	Manganese (Mn)			
	21	Aluminium (Al)			
	22	Steel			
	23	Electrolyte (KOH)			
	24	Electrolyte (NaOH)			
	25	Plastics			
	26	Cadmium (Cd)			
	27	Others (please specify)[1]			
	28	**Total**			
[1] Add other cells if necessary to specify other elements or compounds.					
[2] In accordance with Article 72(3) of Regulation (EU) 2023/1542					
Row 14: Sum of values from rows 2 to 13					
Row 28: Sum of values from rows 15 to 27					

Table 4

Recycling efficiency and recovery of materials of other waste batteries

				1
				Total weight in the reporting year (tonnes)
	1	Other waste batteries delivered for recycling		
Input: Fractions that are counted as input into the recycling process	2	Cobalt (Co)		
	3	Copper (Cu)		
	4	Lead (Pb)		
	5	Lithium (Li)		
	6	Nickel (Ni)		
	7	Manganese (Mn)		
	8	Aluminium (Al)		
	9	Steel		
	10	Electrolyte (KOH)		
	11	Electrolyte (NaOH)		
	12	Plastics		
	13	Oxygen (O_2)		
	14	Carbon from carbon sources at cell level (C)		
	15	Iron from iron sources at cell level (Fe)		
	16	Phosphorus (P)		
	17	Chlorine (Cl)		
	18	Sulphur (S)		
	19	Others (please specify)[1]		

	20	**Total**			
			2	3	4
Output: Fractions that are counted as output of the recycling process which account for the recycling efficiency rate and recovery of materials rate		**Fraction**	**Output generated in Member States (tonnes)**	**Output generated in third countries with confirmed equivalent conditions (tonnes)[2]**	**Total output (tonnes)**
	21	Cobalt (Co)			
	22	Copper (Cu)			
	23	Lead (Pb)			
	24	Lithium (Li)			
	25	Nickel (Ni)			
	26	Manganese (Mn)			
	27	Aluminium (Al)			
	28	Steel			
	29	Electrolyte (KOH)			
	30	Electrolyte (NaOH)			
	31	Plastics			
	32	Oxygen (O_2)			
	33	Carbon from carbon sources at cell level (C)			
	34	Iron from iron sources at cell level (Fe)			
	35	Phosphorus (P)			
	36	Chlorine (Cl)			
	37	Sulphur (S)			
	38	Others (please specify)[1]			
	39	**Total**			

[1] Add other cells if necessary to specify other elements or compounds.					
[2] In accordance with Article 72(3) of Regulation (EU) 2023/1542.					
Row 20: Sum of values from rows 2 to 19.					
Row 39: Sum of values from rows 21 to 38.					

ANNEX III

FORMAT FOR THE QUALITY CHECK REPORT ACCOMPANYING THE DATA REFERRED TO IN ANNEXES I AND II

Part 1: General Information

Member State

Title

Quality check report for the data submitted for the purposes of Article 76 of Regulation (EU) 2023/1542

Organisation submitting the data and the quality check report

Contact person / contact details

Reporting year

Delivery date / version of the quality check report

Claim for confidentiality

This quality check report shall be available

- to the public (on the Commission's webpage):
  ☐ Yes / ☐ Yes, with the exception of specific section(s) for specific reasons; please provide explicit information on which section(s) should be confidential and the justification(s) for confidentiality :_____
- to the members of the Technical Adaptation Committee (TAC) and the Expert Group on waste:

  ☐ Yes / ☐ Yes, with the exception of section(s) for specific reasons; please provide explicit information on which section(s) should be confidential and the justification(s) for confidentiality :_____

  ☐ No, neither on the Commission's webpage, nor to the members of the TAC.

If no, please provide explicit information on the reasons for confidentiality of the entire report: _____

Part 2: Sources of data, process for validation of data and coverage

A. Quantity of batteries made available on the market for the first time in a Member State and waste batteries collected and treated

A.1. Exclusion of batteries that have left the territory before being sold to end-users from the amount of batteries made available on the market for the first time in a Member State

Please describe how it is tracked that batteries that have left the territory of the Member State in the reporting year before being sold to end-users are excluded in accordance with Article 76(1), point (a), of Regulation (EU) 2023/1542. Please detail for which batteries exclusion is unclear, if any, and the reasons for a possible lack of exclusion.

A.2. Waste batteries collected

Please describe how data on the chemistries of waste batteries collected is distinguished and how it is ensured that e.g. starting, lighting and ignition lead-acid batteries, industrial nickel-cadmium batteries and electric vehicle lithium-based batteries are not mixed up.

A.3. Waste batteries collected and exported to third countries for recycling, preparation for recycling, preparation for re-use or preparation for repurposing

Please describe if and how the amount of waste batteries collected, which are temporarily stored before being exported to third countries for recycling, preparation for recycling, preparation for re-use or preparation for repurposing are tracked and how accurate reporting over different reporting years is ensured.

B. Treatment, recycling efficiency rates and recovery of materials rates

B.1. Treatment systems and operational conditions

Please generally describe the waste battery treatment systems available (nationally and/or outside the Member State) for the Member State's batteries and provide information about measures taken to ensure that the operational treatment conditions are met, as referred to in Article 70 and Annex XII, Part A, of Regulation (EU) 2023/1542.

B.2. Output fractions generated outside the Member State

If quantities of waste batteries are reported to be treated in other Member States and/or in third countries, please specify how it is ensured and tracked that the generated output fractions are declared and considered correctly for the calculation of the recovery of materials rates and recycling efficiency rates.

B.3. Aggregation of recycling efficiency data

Please describe how the data on recycling input and output fractions are aggregated in order to calculate the recycling efficiency rates on a national level.

B.4. Aggregation of recovery of materials data

Please describe how the data on material input and output fractions are aggregated in order to calculate the recovery of materials rates on a national level.

C. Data sources

For the following specified data sets, please describe the data sources (e.g. administrative data, national statistics, data from waste operators and/or producers/producer responsibility organisations (PROs), business reporting obligations, specific impact assessments, etc.) which provided the data per data set

C.1. Data on batteries made available on the market for the first time in a Member State (for all categories)

C.2. Data on waste batteries collected (for all categories)

C.3 Data on waste batteries exported outside the Union for recycling, preparation for recycling, preparation for re-use or preparation for repurposing (for all categories)

C.4. Data on waste industrial and electric vehicle batteries delivered to preparation for re-use or preparation for repurposing

C.5. Data on waste battery recycling efficiencies (for all chemistries)

C.6. Data on waste battery recovery of materials (for all materials)

1.1. D. Data quality and validation

1.1.1. D.1. Quality of data sources and estimations

Please describe the quality (i.e. accuracy and reliability) of the data for the different battery categories, chemistries and data types (including how data quality is guaranteed, challenges with data quality and how the Member State intends to improve data quality in the future).

D.2. Validation process for data accuracy

Please describe how competent authorities ensure the accuracy and reliability of data for the achievement of collection and recycling efficiency and recovery of materials targets. In the description, please indicate how aggregated data from different producers and waste management operators is validated.

D.3. Sorting of batteries into correct category

Please describe which processes are in place to ensure that all batteries are sorted into the correct battery categories and that the data for a given battery category does not include batteries of another battery category. E.g. how is it ensured that industrial batteries weighing less than 5 kg are not incorrectly categorised as portable batteries and not incorrectly accounted for the portable batteries collection rate? Please describe how the categorisation is verified.

1.2. E. Data completeness and coverage

E.1. General

What percentage of the batteries collected and treated is covered or estimated to be covered by the reporting scheme and what are the main systematic data gaps (e.g. a PRO or a specific company did not provide a (complete) data set; preparation for re-use or preparation for repurposing is not or is only partially covered; a specific data source is missing or incomplete; etc.)? Describe the measures being taken to remedy the failure to provide the required data.

E.2. Difficulties in data collection from another Member State or a third country

Please indicate which difficulties, if any, were experienced in collecting data from treatment operators located in another Member State or a third country. Please describe the difficulties, including their possible reasons, and the actions taken to address the difficulties.

1.3. F. Data plausibility

Please indicate in the table below whether any of the following situations has occurred. If the response for one or more of the questions is yes, please provide additional information on the occurrence and its reasons.

Question	**Answer**
F.1.The quantity of batteries from a category collected is higher than the quantity of batteries from that category made available on the market for the first time in a Member State.	Yes / No
F.2. The collection rate for waste portable batteries exceeds 90 %	Yes / No
F.3. The collection rate for waste LMT batteries exceeds 80 %	Yes / No
F.4.The quantity of batteries from a category and chemistry exported outside the Union for recycling, preparation for recycling, preparation for reuse or preparation for repurposing is higher than the quantity of batteries from that category and chemistry collected.	Yes / No
F.5.The quantity of batteries from a chemistry supplied to recycling and accounted for in the recycling efficiency is higher than the quantity of all batteries from that chemistry collected.	Yes / No
F.6. The recycling efficiency for lead-acid batteries exceeds 90 %.	Yes / No
F.7. The recycling efficiency for lithium-based batteries exceeds 80 %.	Yes / No
F.8. The recycling efficiency for nickel-cadmium batteries exceeds 95 %.	Yes / No
F.9. The recycling efficiency for other waste batteries exceeds 75 %.	Yes / No
F.10. The recovery of materials rate for cobalt, copper, lead or lithium exceeds 99 %.	Yes / No
F.11. The recovery of materials rate for lithium exceeds 70 %.	Yes / No
F.12. Break in time series (significant changes of the amounts reported over time)	Yes / No

1.4. G. Other differences or deviations compared to reporting in previous years

In case a significant variation from the data submitted for the previous reporting year occurs, please provide explanations detailing the tonnage difference and the causes of the difference for any data type (batteries made available on the market, collected waste batteries, recycling efficiency, recovery of materials etc.), battery category, battery chemistry and/or material.

1.5. H. Main national websites, reference documents and publications

Please provide any other relevant data or data sources not indicated in the questions above, including: downloadable reference documents for data sources (e.g. from PROs, specific

manufacturers, recyclers, etc.); reports addressing aspects of data quality or coverage; reports on best practice on battery collection and treatment; reports on imports and exports of batteries; reports addressing enforcement, such as from PROs on the achievements as concern battery collection, treatment and recycling; and any other source of data and information related to batteries for national reporting.