EUROPEAN COMMISSION
EUROSTAT

Directorate E – Sectoral and regional statistics
E.2 – Environmental statistics and accounts; sustainable development

Guidance for the compilation and reporting of data on the placing on the market of mineral and synthetic lubrication and industrial oils and on the treatment of waste oils as required by the Commission Implementing Decision (EU) 2019/1004, Annex VI

CONTACT:

Should you have any questions please do not hesitate to contact us: ESTAT-WASTE- STATISTICS@ec.europa.eu

Please specify your contact details and indicate the nature of your question: e.g. registration in CIRCA, use of the EDAMIS system, waste concepts.

If you have specific EDAMIS problems, please use the following address for support: ESTAT-DATA-METADATA-SERVICES@ec.europa.eu

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Version of 21 May 2023

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1. INTRODUCTION

The aim of this guidance document is to assist the Member States in their efforts to report data on oils and waste oil, pursuant to the requirements laid down in Commission Implementing Decision (EU) 2019/1004, Annex VI. The document helps to produce high quality and harmonised data.

Member States shall report to the Commission their data on mineral or synthetic lubrication or industrial oils placed on the market and waste oils separately collected and treated for each calendar year. The deadline for the first reporting of a Member State's data from reference year 2020 is 30 June 2022.

This guidance document is accompanied by an Excel file containing the questionnaire for data submission and the quality check report (hereafter referred to as the 'Quality report'). More technical guidance and support for the submitting data is provided in this separate Excel file.

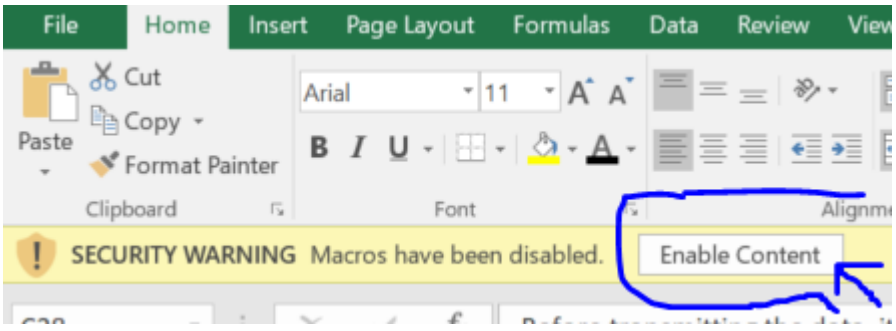
The introduction to the Quality report explains the rationale behind slight variations in the structure from the Annex VI of Commission Implementing Decision (EU) 2019/1004. Changes are in the spirit of the act and should help facilitate providing information by making the structure and requirements clearer.

This guidance document is primarily intended for national experts involved in the production of national statistics on waste oils. Experts are invited to provide comments so that the document can be improved.

This guidance document will be further improved and expanded as experience is gained through further data collection and reporting. For revised versions of this guidance document, please check https://ec.europa.eu/eurostat/web/waste/methodology.

2. BEFORE ENTERING YOUR DATA

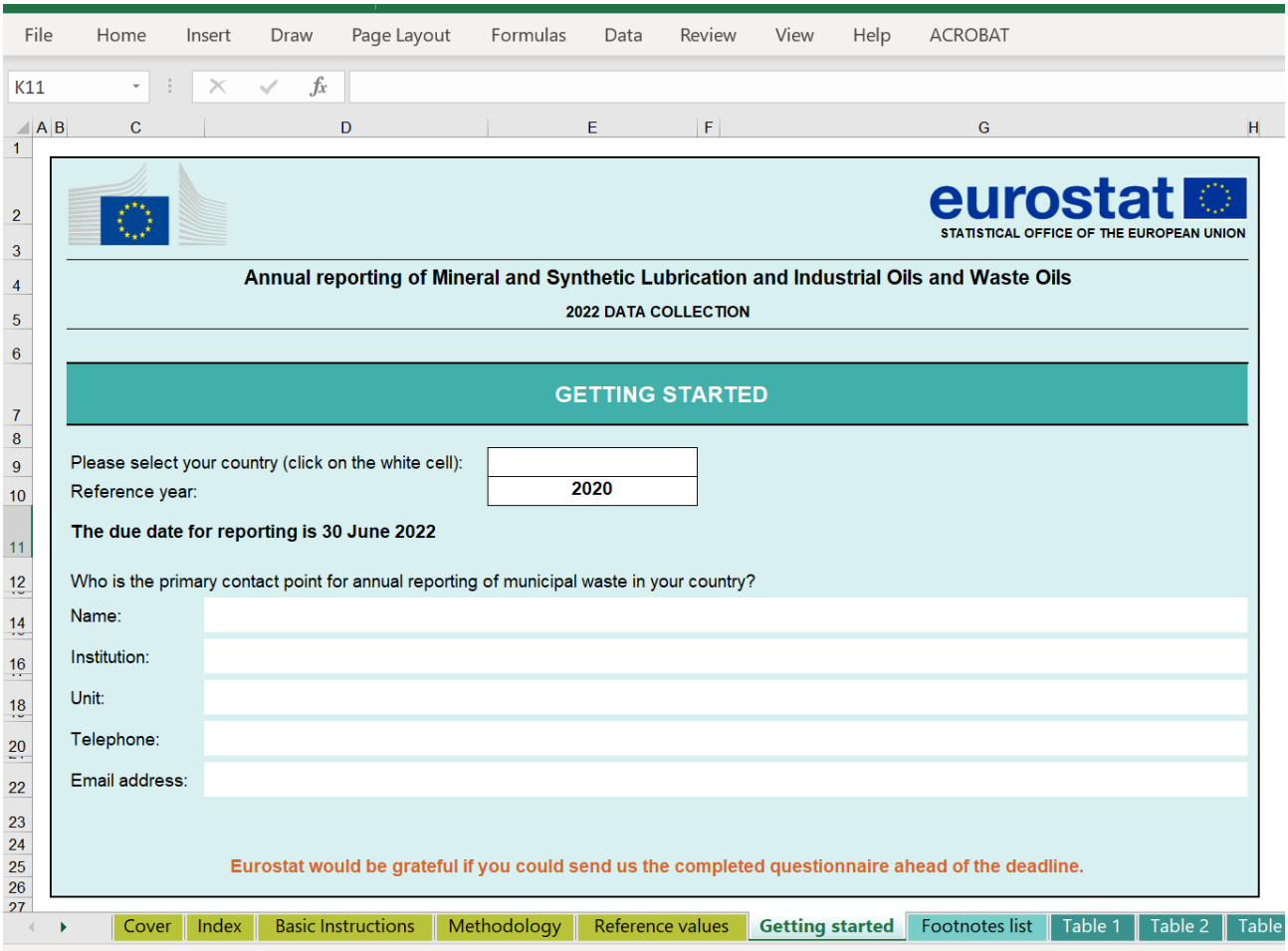
To be permitted to enable the macros in the Waste Oil Excel questionnaire Excel document, you have to download the Excel file to your network. Moreover, you have to enable the macros to edit the questionnaire by clicking 'Enable content':



2.1. Worksheet 'Getting Started'

As the first step, please complete the worksheet 'Getting Started'.

Please choose the country name and data reference year, as in the picture below, cells E9 and E10. Then, please complete the contact information. This information will be automatically inserted into the Quality report.



3. DUE DATE FOR DATA SUBMISSION

The first reference year for data reporting on waste oils is the year 2020. Member States shall report the data within 18 months from the end of the reporting (reference) year for which the data is collected. This means that the deadline for the first data reporting is 30 June 2022.

4. GUIDANCE REGARDING COMMISSION IMPLEMENTING DECISION (EU) 2019/1004, ANNEX VI

Certain conventions and metadata need to be considered when submitting data. Please see the worksheet 'Basic Instructions' for more details.

4.1. General definitions and conventions

When entering your data into the tables, please note how to enter 'missing' versus 'zero' data:

Description	Symbol

Real zero	0
Not available	

Data in an empty cell is considered ‘not available’ or as a ‘missing value’ and is not encoded in Eurobase as a 0 (zero) but instead with the symbol “:” for ‘not available’. When reporting in a cell is mandatory, an explanatory footnote is always required.

In the Excel, the cell colours indicate how to use or enter data into the cell.

Type of cells	**Explanation/ definition**
Green-shaded cells:	Reference values
White-shaded (uncoloured) cells:	Provision of data is mandatory
Light blue-shaded cells:	Provision of data is voluntary
Black-shaded cells:	Reporting is not applicable
Grey-shaded cells:	Calculation is automatic; do not input any data into these cells
Beige-shaded cells:	Footnotes (only to be filled in where needed)

4.2. Macros and overriding formulas

Manually entering values into certain cells may be necessary to overwrite a formula. When data entry in these cells is mandatory and for any reason the cell does not contain the expected value, please press the button Unlock formulas in order to edit the cell. You should not replace the original formula with another formula; please insert only numbers and manually do the calculation. When replacing the formula with a number, you must always provide an explanatory footnote.

4.3. Footnotes

You are asked to report data that follow as closely as possible to the Mineral and Synthetic Lubrication and Industrial Oils and Waste Oils definitions and reporting rules (see paragraphs below). Footnotes and flags can be used to provide an explanation of the data. See the Excel worksheet ‘Basic Instructions’ for more details on how to insert this metadata.

4.4. Reference values

As explained in chapter 4.5.1, ‘Waste oil generated’ in section 2 considers unavoidable losses. Therefore, the collectable amount of waste oil should be reported in section 2 of Table 1. This amount represents a theoretical figure which has to be calculated based on national approaches or on return rates.

In case no national approach and no national return rates should be available the default values in the table of the Excel worksheet ‘Reference values’ can be applied for the calculation of ‘Waste oil generated’. A figure of this table is provided in Figure 1**Error! Reference source not found.** below. The table provides default reference values for the calculation of waste oil generated (see Table 1, section 2).

Please be aware that the **default values may only be applied if the quantities of the individual lubricant oils (e.g. machine oils, hydraulic oils, etc.) are known**. Applying an average default value in case quantities of lubricant oils are unknown – for example (52% + 76%) / 2 = 64% for engine oils and gear box oils – does not make sense and would result in wrong values for ‘Waste oil generated’.

Figure 1 Default reference values for the calculation of generated waste oil

Reference values for the calculation of generated waste oil	
Country:	
Reference year:	**2020**
	1
	Fraction of oils placed on market (%)
Engine and gear box oils	
Engine oils	52
Gear box oils	76
Industrial oils	
Machine oils	50
Hydraulic oils	75
Turbine oils	70
Transformer oils	90
Heat transmission oils	90
Compressor oils	50
Base oils	50
Metal working oils used in emulsions	49

The table presents specific return rates for the various lubricant oils. Return rates are the share of the lubricant oil placed on the market that is considered to be collectable. Multiplying the amount of a lubricant oil placed on the market with its specific return rate calculates the waste oil generated (collectable) of the specific application of the lubricant oil (engine, gear box, machine, hydraulic etc.).

Please be aware that these reference values represent default values for specific lubricant oils applications and do not represent their share in the total quantity of lubricant oils placed on the market. Thus, these default reference values do not add up to 100%.

The return rates in the table provided in Figure 1 are, to a large extent, based on German experience[1]. These figures are to be applied as default reference values if no country-specific figures are available. However, please be aware that return rates can differ significantly between countries. Furthermore, the return rates contain a simplification and inaccuracy in that export losses and import gains are counted twice[2]. Therefore, default reference values should really only be used as a fallback option when otherwise no data would be available at all.

In case, also default reference values cannot be applied (quantities of individual lubricant oils are unknown, see explanations further above) as fallback option 'Not available' should reported for 'Waste oil generated' in section 2.

[1] Jepsen, D. et.al: Erhebung der Struktur des Altölsammelmarktes und Optimierungspotenziale für bessere Altölqualitäten im Kontext der Abfallhierarchie, Endbericht Umweltforschungsplan des Bundesministeriums für Umwelt, Naturschutz, Bau und Reaktorsicherheit, (Survey of the structure of the waste oil collection market and optimisation potentials for better waste oil qualities in the context of the waste hierarchy, Final Report Environmental Research Plan of the Federal Ministry for the Environment, Nature Conservation, Construction and Reactor Safety, Germany), December 2016

[2] The German based default reference values include a correction for import and export. At the same time, the quantities of placed on the market (Table 1 Section 1) should also already take into account exports and imports of lubricant and industrial oils.

Please explain in the quality report, question II 2, the methodology used to calculate the amount of waste oil generated. Please also provide an explanation if 'Not available' is reported.

Sample calculation:

In a Member State, 40 000 tonnes of engine oils and 10 000 tonnes of gear box oils are placed on the market. By applying the reference values, the amount of generated waste oils can be calculated.

Engine oils, generated waste oils: 40 000 t x 52% = 20 800 t waste oil generated

Gear box oils, generated waste oils: 10 000 t x 76% = 7 600 t waste oil generated

Thus, in total 20 800 t + 7 600 t = 28 400 t engine and gear box waste oil generated results. This value should be filled in Table 1, section 2.

4.5. Guidance for specific reporting tables

4.5.1. Table 1

Table 1 as established by the Commission Implementing Decision (EU) 2019/1004, Annex VI, and provided for data submission in the accompanying Excel file is displayed in Figure 2.

Generally, reporting of lubricant and industrial oils placed on the market in a Member State shall include lubricant and industrial oils placed on the market within vehicles, machineries and other products. Therefore, data collection shall take into account export losses of lubricant oils (e.g. export of lubricant oils within passenger cars) and import gains (e.g. imports of lubricant oils within passenger cars). Countries are consequently asked to please also describe this data collection in the Quality report under question '11.2. Completeness of the data collection on mineral and synthetic lubrication and industrial oils and waste oils'.

Where appropriate, particularly in Tables 1 and 3, data on waste oils have to be filled in as 'dry oil' and the corresponding amount as 'including water' as well; both data is mandatory. Footnote 14 in Table 1 explains how dry oil / including water can be derived if no specific information is available from the Member State.

Countries should also describe how the waste oil is measured including water or dry and how the corresponding amount dry oil / including water is determined. This information may be shared in the Quality report in question II.3. 'Description of the method used to determine the dry oil content of the waste oil'.

Figure 2 Table 1. Reporting on data on the placing on the market of mineral and synthetic lubrication and industrial oils and on the treatment of waste oils (in tonnes)

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Table 1. Reporting on data on the placing on the market of mineral and synthetic lubrication and

Country:

Reference year: 2020

	1 Oils placed on the market[5]			2 Waste oil generated[6] (dry			3 Separately collected[7] waste oils						4 Exported[8] waste oils						5 Imported[9] waste oils					
	(t)	Standard footnotes	Explanatory footnote	(t)	Standard footnotes	Explanatory footnote	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil[14] (t)	Standard footnotes	Explanatory footnote	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil[14] (t)	Standard footnotes	Explanatory footnote	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil[14] (t)	Standard footnotes	Explanatory footnote
Engine and gear box oils[1]																								
Industrial oils[2]																								
Industrial oils (emulsions only)[3]																								
Oil and concentrates from separation[4]																								

tic lubrication and industrial oils and on the treatment of waste oils (in tonnes)

	6 Regeneration[10]						7 Other recycling[11]						8 Energy recovery[12] (R1)						9 Disposal[13]					
	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil[14] (t)	Standard footnotes	Explanatory footnote	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil[14] (t)	Standard footnotes	Explanatory footnote	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil[14] (t)	Standard footnotes	Explanatory footnote	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil[14] (t)	Standard footnotes	Explanatory footnote

This section specifies how to generate and/or collect the data for sections 1 to 9 of Table 1 in the accompanying Excel file.

When reporting waste oil data in Table 1, sections 3 to 9, only the list of waste (LoW) codes that are listed and grouped in Table 4-1 of this guidance document below shall be considered. Table 4-1 also differentiates LoW codes to be linked to:

- Row 1 'Engine and gear box oils' (130204 to 130208);
- Row 2 'Industrial oils' (120106 to 130310);
- Row 3 'Industrial oils (emulsions only)' (120108 to 130302) and
- Row 4 'Oil and concentrates from separation' (190207).

For example, for separately collected waste oils from engine and gear box oils in Table 1 of the reporting format (see section 3, row 1 'Engine and gear box oils'), only the sum of the amounts corresponding to the LoW codes 130204 to 130208 (see Table 4-1) shall be reported.

Emulsions, row 3 'Industrial oils (emulsions only)' should be separately reported, as their huge volumes would distort reporting on other industrial oils.

Table 4-1 List of Waste (LoW) codes to be included in waste oil reporting

LoW codes	Waste oils categories
Engine and gear box oils	
130204*	mineral-based chlorinated engine, gear and lubricating oils
130205*	mineral-based non-chlorinated engine, gear and lubricating oils
130206*	synthetic engine, gear and lubricating oils
130207*	readily biodegradable engine, gear and lubricating oils
130208*	other engine, gear and lubricating oils
Industrial oils	
120106*	mineral-based machining oils containing halogens (except emulsions and solutions
120107*	mineral-based machining oils free of halogens (except emulsions and solutions)
120110*	synthetic machining oils
120119*	readily biodegradable machining oil
130101*	hydraulic oils, containing PCBs

LoW codes	Waste oils categories
130109*	mineral-based chlorinated hydraulic oils
130110*	mineral based non-chlorinated hydraulic oil
130111*	synthetic hydraulic oils
130112*	readily biodegradable hydraulic oils
130113*	other hydraulic oils
130301*	insulating or heat transmission oils containing PCBs
130306*	mineral-based chlorinated insulating and heat transmission oils other than those mentioned in 13 03 01
130307*	mineral-based non-chlorinated insulating and heat transmission oils
130308*	synthetic insulating and heat transmission oils
130309*	readily biodegradable insulating and heat transmission oils
130310*	other insulating and heat transmission oils
Industrial oils (emulsions only)	
120108*	machining emulsions and solutions containing halogens
120109*	machining emulsions and solutions free of halogens
130104*	chlorinated emulsions
130105*	non-chlorinated emulsion
130802*	other emulsions
Oil and concentrates from separation	
190207*	oil and concentrates from separation

Lubricant oils not producing waste oils should not be included in section 1 of Table 1. This means process oils, industrial oils not lubricating, greases, extracts from lubricant refining and marine bilge oils should not be included in Table 1 but can be voluntarily included in Table 3 (see sub-chapter 4.5.3).

Please indicate in the quality report, question 11.2, if for any reason it is not possible to exclude any of these lubricant oils that do not produce waste oils.

Please also explain in the quality report, question 11.2, if any additional lubricant oil not listed in footnotes ([1]) to ([3]) is included in one of the rows 1 to 3.

4.5.1.1.1. Section 1, 'Engine and gear box oils' (row 1):

The generation and collection of bilge oils resulting from collected and treated bilge water is to be reported, when available, in the last row of Table 3 and not in Table 1.

The amounts of **marine oil** that are placed on the market, collected and treated should be reported in **row 1 of Table 1**. It is acknowledged that in a port, the distinction between the national and international origin of the marine oil can be complicated.

If specific data on **marine oils** placed on the market or collected (other than bilge oil) is available separately, these amounts can be voluntarily reported in **question 11.1** of the Quality report and should be explained in the quality report including, if possible, information on a potential international origin of marine oil / waste oil.

Please also describe in **question 11.1** of the Quality report if **bio lubricant oils** are included in the data. If they are included, please estimate their share of lubricant oils placed on the market as well as of the collected waste oils.

Please also explain in **question 11.2** of the Quality report how the distinction into 'Engine and gear box oils', 'Industrial oils' and 'Industrial oils (emulsions only)' (row 1, 2 and 3 of Table 1) was derived and any difficulties you had to encounter in obtaining this data.

Reporting of lubricant and industrial oils placed on the market within Table 1, section 1, should already take into account **exports and imports** of lubricant and industrial oils (e.g. through imports or exports of vehicles). Please be aware of **footnote 5 in Table 1** that requests taking into account export losses and import gains. In the **Quality report question 11.2,** countries are requested to describe in detail if such imports/ exports occur and to explain how the imports/ exports are considered in Table 1.

As an example, if a Member State manufactures vehicles or other machinery that contain lubricant oils, and if such vehicles or machinery are exported to other countries then the lubricant oils contained in these vehicles, machinery or other products shall *not* be accounted for under the aspect 'placed on the market' of the exporting Member State. If, on the other hand, such vehicles or machinery are imported to a Member State then the lubricant oils contained in the vehicles and machinery shall be accounted for under 'placed on the market' of the importing Member State.

4.5.1.1.2. Section 2 'Waste oil generated':

Whether oil placed on the market becomes waste oil after use depends on the specific application of the oil. A certain amount of oil might be lost and only the remaining share will be available for collection as waste oil. In this sense, we refer to 'unavoidable losses' and 'collectable waste oils'. The share of oil placed on the market which is collectable is equal to the 'return rate'.

Waste oil generated considers unavoidable losses. Therefore, the **collectable amount of waste oil** should be reported in section 2. This amount represents a theoretical figure which has to be calculated (based on national approaches or on default reference values, see the Excel worksheet 'Reference values' and sub-chapter 4.4 in this document).

Please explain in the **Quality report question II 2**. how the amounts of waste oil generated were derived. Please explain separately for each value in rows 1 to 3 (Section 2).

4.5.1.1.3. Section 3 ‘Separately collected waste oils’:

The amounts to be reported here in section 3 represent the actual collected amount of waste oil. ‘Separate collection’ means the collection where a waste stream is kept separately by type and nature so as to facilitate a specific treatment.

Please note that the theoretical value for the collectable amount of waste oil (waste oil generated in section 2) should be larger than the value for the quantities of actually ‘Separately collected waste oils’ in Section 3. However, there is a time difference between when the oils are placed on the market (section 1) and when they are collected at the end of their useful life. Thus, lubricating oil is placed on the market in one year and could only be collected as waste oil in the following year(s). Please explain in the **Quality report question II 2** if such effects should result in an inconsistency between ‘Oils placed on the market’, ‘Waste oil generated’ and ‘Separately collected waste oils’.

Data on ‘Separately collected waste oils’ shall be reported as ‘Dry oil’ and also as a hydrated volume under ‘Including water’. Mandatory reporting of ‘dry oil’ and ‘including water’ applies also to all other data on waste oils where appropriate.

4.5.1.1.4. Section 4 ‘Exported waste oils’:

In section 4, waste oils exported for final treatment to other Member States and countries outside the EU should be reported. Please provide more details in the quality report under question 6.

4.5.1.1.5. Section 5 ‘Imported waste oils’:

In section 5, waste oils imported for final treatment in the Member State and originating from other Member States and countries outside the EU should be reported. Please provide more details in the quality report under question 6.

4.5.1.1.6. Sections 6 to 9:

In sections 6 to 9, the input amounts into the treatment processes should be reported. The output of the treatment is the subject of Table 2; see here sub-chapter 4.5.2.

Amounts reported in sections 6 to 9 shall take into account exports and imports. Thus, separately collected waste oils (section 3) need to be adjusted for exported (section 4) and imported (section 5) waste oils; see footnotes 10-13. In sections 6 to 9 only waste oil that is processed in your country can be reported.

Footnotes 10-13: “Amounts reported shall relate to the waste oil separately collected. The sum of the values for dry oil in sections 6 to 9 should be equal to the sum of the values for dry oil in section 3 adjusted for exported and imported waste oils (section 3 – section 4 + section 5 = section 6 + section 7 + section 8 + section 9).”

4.5.1.1.7. Section 6 ‘Regeneration’:

Under ‘Regeneration’ only the input into re-refineries in which the main products were base oils that were used in a lubricant application (not as a fuel product or in energy recovery) should be reported.

Member States should exclude from reporting here the input which results in regenerated/ recovered oils completely going to energy recovery or used as fuels (see footnotes 10 and 12 in Table 1) or going wholly to a combination of energy recovery or used as fuels or used as flux oil; to be reported in section 8 “Energy recovery (R1)”.

Waste oil treatment which completely results in oil, e.g. used as flux oil to modify viscosity of bituminous binders, should be reported in section 7 “other recycling”.

To clarify, if input of waste oils to a treatment process results in an output mix of base oils (used in lubrication applications) as well as fuel products and/or flux oils, such waste oils should be reported as input in section 6 (with the output of that process being split across at least section 2 and sections 3 or 4 of Table 2).

4.5.2. Table 2

An image of Table 2 can be found in Figure 3 below.

Figure 3 Table 2. Reporting on data on the treatment of waste oils (in tonnes)

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Table 2. Reporting on data on the treatment of waste oils (in tonnes)

Country:

Reference year: 2020

Section 1	2			3			4			5		
Type of output from recovery	Regeneration[1]			Other recycling			Energy recovery or reprocessing into materials that are to be used as fuels (including regenerated oils used as fuel)			Disposal (D10)		
	(t)	Standard footnotes	Explanatory footnote	(t)	Standard footnotes	Explanatory footnote	(t)	Standard footnotes	Explanatory footnote	(t)	Standard footnotes	Explanatory footnote
Regenerated base oil – group I[2, 3]										0		
Regenerated base oil – group II[4]												
Regenerated base oil – group III[5]												
Regenerated base oil – group IV[6]												
Recycled products[7] (specify)												
Fuel products for off-site energy recovery – Light fuel oil												
Fuel products for off-site energy recovery – Distillate fuel oil												
Fuel products for off-site energy recovery – Heavy fuel oil												
Fuel products for off-site energy recovery – Recovered fuel oil												
Fuel products for off-site energy recovery – Processed fuel oil												
On-site energy recovery[8]												
Other	0			0			0					
[specify 'other']												
[specify 'other']												
[specify 'other']												

Please be aware that in Table 2 the outputs (products) of the waste oil treatment processes whose inputs are addressed in Table 1 must be reported. Please also note, that only outputs of waste oil treated in your country shall be reported in Table 2. Thus, products of waste oil exported to other countries for processing must be excluded in Table 2.

In Table 2, sections 2, 3 and 4, the **outputs of treatment processes** and, of them, the main products to be considered are listed in the rows of the table.

Section 5 in Table 2 considers D10 incineration on land. For **incineration, the input (dry oil) and not the output** should be reported in section 5 since there is no material output (as a product). Therefore, the figure in section 5 should be the same as the sum of section 9 in Table 1.

Section 2 (Table 2) relates to section 6 in Table 1. Section 3 (Table 2) corresponds to section 7 in Table 1. Section 4 (Table 2) relates to section 8 in Table 1 but will also include fuel products, listed in section 1, that are obtained from waste oil regeneration and destined to energy recovery and/or use as fuel.

The **sum of the values in section 2 (Table 2) must be smaller than the sum of the values in section 6** of Table 1. Due to the yield of base oils in the regeneration process (conversion efficiency, see also footnote 1 of Table 2), the output of regeneration in section 2 (Table 2) must be smaller than the input into regeneration in Table 1. Smaller quantities in section 2 also result from the fact that some of the products (use as fuel) might not be reported in section 2 but in section 4 of Table 2.

Section 2 'Regeneration':

Regenerated base oils represent the main output of the regeneration (re-refining) process of waste oil. Currently, only base oils of groups I to III are produced as products. In section 2, the amounts of each base oil group should be reported.

The base oil groups are classified into five groups according to the classification of the American Petroleum Institute (API). This categorisation is based on the following main criteria: percentage of saturates, sulphur content and viscosity index. The API groups and their characteristics are presented in the following table and are referred to (group I to IV) in section 1 of Table 2.

Table 4-2 Base oil groups according to API

Category	Sulphur content %		Saturates %	Viscosity index
Group I	>0.03	and/or	<90	80 to 120
Group II	<0.03	and	>90	80 to 120
Group III	<0.03	and	>90	> 120
Group IV	polyalphaolefins (PAOs)			
Group V	All other base oils not included in Groups I to IV			

Should no information on the level of the individual base oil groups be available, the aggregated total amount of regenerated base oil should be reported in row 'Other'. **The total sum of all entries in**

section 2 represents the total output of all base oil resulting from the total input into waste oil regeneration in section 6 of Table 1.

The focus of reporting for section 2 is on regenerated base oil, but other products resulting from re-refining (e.g. fuels, asphalt flux) should also be reported in the corresponding cells of the table. The resulting amount and group of regenerated base oil will depend on the composition of the waste oil input into the re-refining process and on the re-refining treatment available.

In the case that regenerated base oil is burned as a fuel, this amount of base oil should be reported in section 4 of Table 2 to help ensure no double counting of this material. This amount of regenerated base oil used as a fuel should be deducted from section 2 and only be reported in section 4. Base oils used as fuel should be reported according to their base oil group I to IV (row group I to row group IV; see section 1 of Table 2) or, if no separate information is available as an aggregate, in row 'Other'.

Example of reporting of regeneration of waste oil (section 2):

Total re-refining in a Member State results, for example, in 10 000 tonnes of base oils and 3 000 tonnes of fuel oils. The base oils, e.g. 7 000 tonnes base oil Group I and 3 000 tonnes base oil Group II, are reported in section 2 'Regeneration', row 1 'Regenerated base oil – group I' and row 2 'Regenerated base oil – group II'. However, should a part of the regenerated base oil Group I be used as a fuel, e.g. 500 tonnes, it should be explained in the quality report, question II 5. Then, these 500 tonnes are reported in section 4, row 1; section 2, row 1 reports only 6 500 tonnes (7 000 – 500 = 6 500) instead of 7 000 tonnes. However, should the specific base oil Groups of the 10 000 tonnes of base oils be unknown, then the total amount of 10 000 tonnes of base oils should be reported in row 'Other'.

The fuel oils from re-refining (3 000 tonnes in total), e.g. 1 500 tonnes of light fuel oil and 1 500 tonnes of heavy fuel oil, are reported in section 4, row 6 and 8.

Section 3 'Other recycling':

The output from other recycling (e.g. flux oil), which corresponds to the input in section 7 of Table 1, should be reported for each product separately in section 3 (Table 2). The amount of the product should be reported in row 'Recycled products'. Should there be more than one product, additional products can be added in row 'Other'. Please describe the outputs of treated waste oils reported under the category 'Other recycling' in the quality report, question II 4.

Section 4 'Energy recovery':

In section 4 of Table 2, amounts of fuel products resulting as output from waste oil treatment processes should be reported. All output, independent of whether it is used for energy recovery in e.g. cement kiln, lime works, power plant etc. or used as a fuel for ships or in on-site energy recovery in regeneration or other recycling operations, should be recorded. The fuel should be differentiated into 'Light fuel oil', 'Distillate fuel oil', etc. Should a distinction not be possible, an aggregate should be reported in row 'Other'. In case another category of fuel applies, additional rows should be added and the fuel type should be specified.

The light, distillate and heavy fuel oil entries listed in section 1 are obtained from the treatment of waste oil in a regeneration (re-refining) process where these fractions are separated from the base oil which is regenerated. Please explain this in the quality report, question II 5. Assigning oils to one category or another should be based on similarity to the comparable refinery stream. Therefore, these hydrocarbon fractions must be produced as part of a base-oil re-refining process. These fuel oils are

reported under section 4, whereas the regenerated base oil is reported under section 2 ’Regeneration’ unless it is used as fuel.

Recovered fuel oil (RFO) and Processed fuel oil (PFO) refer to waste oil treated via simple treatments (basic clean-up, such as dewatering and processes such as filtering, settling or centrifuging to remove solid contaminants) that do **not** result in any regeneration of base oil and where all the resulting material goes to fuel. Therefore, these fuel products are also reported under section 4. The related waste oil input in Table 1 should be reported under section 8 ‘Energy recovery’ of Table 1.

The naming and precise specifications for these mildly treated waste oils varies throughout Europe, so it will be up to each Member State to assign the resulting fuel products to the RFO or PFO category based on their standards and practices. Normally, RFO is made up of waste oils that have only been subjected to very simple treatment (settling, filtering, dewatering). PFOs can be considered to be subjected to somewhat more exhaustive treatments, including chemical treatment to reduce heavy metals and / or distillation. In the UK, for instance, there is a “quality protocol” defining the quality for treated waste oil to be defined as PFO[3].

Overall Balance Table 1 / Table 2

Similar to the ‘mass balancing requirement’ footnote 10 in Table 1, the combined total amount of outputs reported in all rows in Table 2 (section 2 + section 3 + section 4 + section 5), should roughly equal the combined total amount of (dry) waste oil inputs reported in all rows of Table 1 (section 6 + section 7 + section 8 + section 9).

[3] Quality Protocol, Processed Fuel Oil (PFO), NIEA (Northern Ireland Environment Agency), February 2011. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/296420/geho0211btmo-e-e.pdf

4.5.3. Table 3

Table 3, as established by the Commission Implementing Decision (EU) 2019/1004, Annex VI, is displayed in Figure 4 below.

In Table 3, additional mineral oils and resulting waste oils other than those listed in Table 1 should be reported. Reporting is voluntary.

Table 3 mainly considers mineral oils not producing waste oil or only small amounts of collectable waste oils.

Due to international shipping traffic, bilge oils can originate from many different countries and therefore amounts collected will differ and may not be traceable to the amounts of any oil placed on the market in a given country. Consequently, in this Table 3 there is no section for reporting the oil placed on the market since it will not be useful for comparative purposes.

Sections 1 to 7 (Table 3) correspond to sections 3 to 9 in Table 1 and should be filled in accordingly; see here sub-4.5.1.

Figure 4 Table 3. Reporting on data on the placing on the market of mineral and synthetic lubrication and industrial oils and treatment of waste oils other than those listed in Table 1 (in tonnes)

	Table 3. Reporting on data on the placing on the market of mineral and s																				
Country:																					
Reference year:	2020																				
	1						2						3								
	Collected[1] Waste Oils (t)						Exported[2] Waste Oils (t)						Imported[3] Waste Oils (t)								
	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil (t)	Standard footnotes	Explanatory footnote	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil (t)	Standard footnotes	Explanatory footnote	Including water (t)	Standard footnotes	Explanatory footnote	Dry oil (t)	Standard footnotes	Explanatory footnote			
Process oils																					
Industrial oils not lubricating																					
Greases																					
Extracts from lubricant refining																					
Bilge oils																					

nthetic lubrication and industrial oils and treatment of waste oils other than those listed in Table 1 (in tonnes)																					
4							5						6						7		
Disposal[4] (D10) (t)							Regeneration (t)[5]						Other recycling[6] (t)						Energy recovery(t)[7]		
Including water (t)	Standard	Explanatory footnote	Dry oil (t)	Standard	Explanatory footnote	Including water (t)	Standard	Explanatory footnote	Dry oil (t)	Standard	Explanatory footnote	Including water (t)	Standard	Explanatory footnote	Dry oil (t)	Standard	Explanatory footnote	Including water (t)	Standard	Explanatory footnote	Dry oil (t)	Standard	Explanatory footnote

4.6. Worksheet ‘Quality Report’

A ‘Quality Report’ sheet (orange-coloured tab) is included in the Excel questionnaire file. It is mandatory to complete the worksheet ‘Quality Report’ in the Excel questionnaire. The quality report must be used to describe waste oil data collection and calculation methods, to document the data sources and to report any issues arising during the validation process.

II. Information on oils placed on the market and waste oils:

The table in question ‘1. Data collection methods’ requests that countries identify which data collection method was used for each data set.

Please be aware that an ‘Electronic registry’ should not be considered a data collection method; it is only an interface to declare data. Therefore, we suggest not ticking the box of the ‘Electronic registry’.