

**WAS-G-DEF-08**

**End-of-waste for processed fuel oil**

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## Purpose

This guidance sets out the end-of-waste criteria for Processed Fuel Oil (PFO) produced from waste oils such as those collected from automotive garages or from oil-based drill cuttings.

## End-of-waste criteria

When sold and dispatched from the site to the end-user for a certain use, PFO meeting the following criteria will not be regulated as waste by SEPA:

* The PFO is produced from waste types listed in Annex 1 only.
* The PFO conforms to the requirements of the relevant specification in Annex 2, via batch analysis as described below.
* The PFO requires no further processing prior to use.

## Waste acceptance criteria

Only the waste types listed in Annex 1 can be used to manufacture of PFO.

The producer must develop ‘waste acceptance criteria’ to ensure that only the waste types in Annex 1 are accepted for processing, and in line with relevant Permit conditions.

## Conformance monitoring

PFO producers must analyse each process batch against the relevant specification in Annex 2 and keep records of the results. If additions are made to a batch tank, then it becomes a new batch and must be re-analysed.

All sampling procedures must be performed and undertaken by an ISO 17025 accredited body, to IP 475 or similar approved and accredited method.

All analysis must be performed and undertaken by an ISO 17025 accredited laboratory using accredited test methods.

Loads should not be dispatched until batch analysis is known. If a batch is tested and does not meet the specification, the oil will remain waste.

<Report date here (month, year)>

## Record keeping

Producers must retain records of all inspection and testing for a period of two years.

PFO producers should also retain records of each sale, supply or use of PFO. This should include the following elements:

* Date of supply.
* Customer’s name, contact details and nature of business.
* Intended use.
* Quantity supplied by weight/volume.
* The specification with which the PFO complies.
* A statement that the PFO was produced in compliance with this guidance.

## Loss of product status

PFO meeting these end-of-waste criteria will become waste again if at any stage:

* It is discarded, or the holder intends to or is required to discard it.
* It is stored indefinitely with little prospect of being used.

This applies to anyone holding stores of PFO, not just producers.

## Annex 1 – Acceptable waste inputs for PFO production

| **EWC Code** | **Description** |
| --- | --- |
| **01 05** | **Drilling muds and other drilling wastes** |
| 01 05 05\* | Oil-containing drilling muds and wastes |
| **12 01** | **Wastes from shaping and physical and mechanical surface treatment of metal and plastics** |
| 12 01 07\* | Mineral based machining oils free of halogens(except emulsions and solutions) |
| 12 01 10\* | Synthetic machining oils |
| 12 01 19\* | Readily biodegradable machining oi |
| **13 01** | **Waste hydraulic oils** |
| 13 01 10\* | Mineral based non-chlorinated hydraulic oils |
| 13 01 11\* | Synthetic hydraulic oils |
| 13 01 12\* | Readily biodegradable hydraulic oils |
| 13 01 13\* | Other hydraulic oils |
| **13 02** | **Waste engine, gear and lubricating oils** |
| 13 02 05\* | Mineral-based non-chlorinated engine, gear and lubricating oils |
| 13 02 06\* | Synthetic engine, gear and lubricating oils |
| 13 02 07\* | Readily biodegradable engine, gear and lubricating oils |
| 13 02 08\* | Other engine, gear and lubricating oils |
| **13 03** | **Waste insulating and heat transmission oils** |
| 13 03 07\* | Mineral-based non-chlorinated insulating and heat transmission oils |
| 13 03 08\* | Synthetic insulating and heat transmission oils |
| 13 03 09\* | Readily biodegradable insulating and heat transmission oils |
| 13 03 10\* | Other insulating and heat transmission oils |
| **13 04** | **Bilge oils** |
| 13 04 01\* | Bilge oils from inland navigation |
| 13 04 02\* | Bilge oils from jetty sewers |
| 13 04 03\* | Bilge oils from other navigation |
| **13 05** | **Oil/water separator contents** |
| 13 05 02\* | Sludges from oil/water separators |
| 13 05 03\* | Interceptor sludges |
| 13 05 06\* | Oil from oil/water separators |
| 13 05 08\* | Mixtures of wastes from grit chambers and oil/water separators |
| **13 07** | **Wastes of liquid fuels** |
| 13 07 01\* | Fuel oil and diesel |
| 13 07 13\* | Other fuels (including mixtures) |
| **19 02** | **Wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)** |
| 19 02 07\* | Oil and concentrates from separation |
| **20 01** | **Separately collected fractions (except 15 01)** |
| 20 01 06\* | Oil and fat other than those mentioned in 20 01 25 |

## Annex 2 – Distillate and residual fuel specifications

This appendix distinguishes between PFO that will replace distillate fuel (e.g. gas oil) and PFO that will replace residual fuel (e.g. heavy fuel oil).

The specifications require that the parameters contained in British Standard BS2869 are met.

Limits for additional properties are added to the BS specification protect the environment.

## Specification for a distillate fuel oil equivalent

PFO that is to be used in place of a distillate fuel oil must meet the parameters set in the most up to date version of the BS2869 for class D fuels, except for viscosity.

In addition to these parameters, the PFO must also be analysed for total halogens expressed as chlorine, and metals and their compounds. The test methods which should be used and the maximum limits are as detailed.

Table 1: Specification for a distillate fuel oil equivalent

| **Property** | **Units** | **Limit (max)** | **Test Method** |
| --- | --- | --- | --- |
| Total Halogens (as chlorine) | mg/kg | 5 | IP 503 |
| PCBs | mg/kg | 5 | IP 462 |
| Mercury | mg/kg | 5 | IP 594 |
| Lead | mg/kg | 5 |  |
| Nickel | mg/kg | 5 |  |
| Chromium | mg/kg | 5 |  |
| Copper | mg/kg | 5 |  |
| Zinc | mg/kg | 5 |  |
| Arsenic | mg/kg | 5 |  |
| Cadmium | mg/kg | 5 |  |
| Thallium | mg/kg | 5 |  |
| Antimony | mg/kg | 5 |  |
| Cobalt | mg/kg | 5 |  |
| Manganese | mg/kg | 5 |  |
| Vanadium | mg/kg | 5 |  |

## Specification for a residual oil equivalent

PFO that is to be used to replace a residual oil must meet the parameters set in the most up to date version of the BS2869:2010 for class E, or F or G fuels, with the exception of viscosity. In addition to these parameters, the PFO must also be analysed for total halogens expressed as chlorine, and metals and their compounds. The test methods which should be used and the maximum limits are as detailed. Note that the limit for sulphated ash content contained in Table 3 below replaces that contained in the BS2869.

Table 2: Specification for a Residual Fuel Oil Equivalent

| **Property** | **Units** | **Limit (max)** | **Test Method** |
| --- | --- | --- | --- |
| Sulphated Ash Content | mg/kg | 0.2 | IP 550 |
| Total Halogens (as chlorine) | mg/kg | 200 | IP 503 |
| PCBs | mg/kg | 5 | IP 462 |
| Mercury | mg/kg | 5 | IP 594 |
| Lead | mg/kg | 25 | IP 592 |
| Nickel | mg/kg | 5 | IP 592 |
| Chromium | mg/kg | 5 | IP 592 |
| Copper | mg/kg | 40 | IP 592 |
| Zinc | mg/kg | 300 | IP 592 |
| Arsenic | mg/kg | 5 | IP 592 |
| Cadmium | mg/kg | 5 | IP 592 |
| Thallium | mg/kg | 5 | IP 592 |
| Antimony | mg/kg | 5 | IP 592 |
| Cobalt | mg/kg | 5 | IP 592 |
| Manganese | mg/kg | 5 | IP 592 |
| Vanadium | mg/kg | 5 | IP 592 |

For the analysis of metals (except mercury) SEPA will, as an equivalent, accept the use of test method IP593 (WD-XRF) instead of IP 592.

For the analysis of sulphur, SEPA will accept the WD-XRF method ASTM D 2622 as an equivalent method to IP336 (ED-XRF).