

Requirements from Waste Treatment BREF, draft 2

Monitoring – BAT AELs (changes from draft 1 highlighted in red)

Emissions to Air

BAT is to monitor channelled emissions to air as below (BAT 4). Associated emission levels are as below:

Parameter	Standard	Monitoring associated with	Minimum monitoring frequency	BAT Associated Emission Level (AEL)
Dust	EN 13284-1	BAT 37 32 (for MBT of waste)	Once every 3 6 months	2-5 mg/Nm ³ (BAT 25-8-37 32)
TVOC	EN 12619	BAT 32 32 (for MBT of waste)	Once every 3 6 months	5- 15 20 mg/Nm ³ (BAT 37 32)
		BAT 52 (for biological treatment of water-based liquid wastes)	Once every 6 months	3-20 mg/Nm ³
NH ₃	No EN standard	BAT 32 (All biological treatments of solid non-pumpable waste)	Once every 3 6 months	0.1 0.3 -10 mg/Nm ³ (BAT 32)
		BAT 52 (for biological treatment of water-based liquid wastes)	Once every 6 months	none
H ₂ S	No EN standard	BAT 32 (All biological treatments of solid non-pumpable waste)	Once every 3 6 months	0.1 <0.6 -1mg/Nm ³ (BAT32)
HCl	EN 1911	BAT 52 (for biological treatment of water-based liquid wastes)	Once every 6 months	1-5mg/Nm ³

If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.

Monitoring frequency may be adapted if the data series clearly demonstrate a sufficient stability.

Some monitoring only applies when the substance concerned is identified as relevant in the waste gas based on an inventory of the waste gas.

Odour may be monitored instead (of NH₃ and H₂S), with same frequency and according to EN 13725. BAT-AEL for odour of 100-400OU_E/Nm³ as an alternative to AELs for NH₃ and H₂S.

Emissions to Water

BAT is to monitor emissions to water as detailed below (BAT 3). The BAT-associated emission levels (BAT-AELs) are also given below (BAT 15):

Substance /parameter	Standard (s)	Minimum monitoring frequency	BAT-AEL for direct discharge to receiving water body (monthly average)
Total organic carbon (TOC) ¹ or Chemical oxygen demand (COD)	EN 1484 No EN standard	Once every week month Once a day for biological treatment of water based liquid waste	10- 40 60 mg/l or 30- 120 180 mg/l 10-100 mg/l or 30-300mg/l
Total suspended solids (TSS)	EN 872	Once every week month Once a day for biological treatment of water based liquid waste	5- 35 60 mg/l
Hydrocarbon oil index	EN ISO 9577-2	Once every month for biological treatment of water based liquid waste	0.5-10 mg/l
Total nitrogen (TN)	EN12260	Once every week month Once a day for biological treatment of water based liquid waste	5- 30 1-25 mg/l ³ 10-60 mg/l
Total phosphorous	Various EN standards available (e.g. EN ISO 15681-1 and -2, EN ISO 6878, EN ISO 11885)	Once every week month Once a day for biological treatment of water based liquid waste	0.3-3mg/l 1-5mg/l
Phenol index	EN ISO 14402	Once a day for biological treatment of water based liquid waste	0.05-0.3mg/l
Easily liberatable cyanide	Various eg, EN ISO 14403	Once a day for biological treatment of water based liquid waste	0.02-0.2 mg/l

Adsorbable organically bound halogens	EN ISO 9562		0.3-1 mg/l
Benzene, toluene, ethyl benzene, xylene	EN ISO 15680		N/A
Heavy metals ² : Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Nickel (Ni), Lead (Pb), Zinc (Zn), Mercury (Hg)	Various EN standards available (e.g. EN ISO 11885, EN ISO 17294-2, EN ISO 15585)	Once every week month. Only applicable to MBT. Once a day for biological treatment of water based liquid waste	As – 0.01-0.05mg/l Cd – 0.01-0.05mg/l Cr – 0.01- 0.05 0.15 mg/l Cu – 0.05- 0.2 0.5 mg/l Ni – 0.05-0.5mg/l Pb – 0.05-0.1mg/l Hg – 0.001-0.01 0.5-5 µg/l Zn – 0.1- 0.5 1 mg/l
Hexavalent chromium	Various eg. EN ISO 103044-3 / 23913	Once a day for biological treatment of water based liquid waste	0.01-0.1 mg/l

1 - Either TOC or COD is monitored. TOC is preferred option because monitoring doesn't use very toxic compounds.

2 – Monitoring and associated BAT-AEL may not apply when the substance concerned is not present in the waste to be treated.

3 – ~~The upper end of the range may be up to 40mg/l for total N if the abatement efficiency is > 70% as a monthly average (considering all of the water water treatment steps carried out).~~

Note that monitoring frequencies may be adapted if the data series clearly demonstrate a sufficient stability of emissions over time. The sampling point should be located where the emission leaves the installation. **Monitoring for heavy metals only applies when the substance concerned is identified as relevant in the waste water based on the inventory.**

Odour emissions

In cases where odour nuisance **at sensitive receptors** is expected or has been substantiated, BAT is to periodically monitor odour emissions from relevant sources in accordance with EN standards (BAT 6). Emissions can be monitored by dynamic olfactometry according to EN 13725.