

Waste Treatment BREF BAT reference:	Description from BREF document	Adherence to BAT	Comments
Section 1.1 – General BAT Conclusions			
BAT 1	In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS)	Yes	EMS adopted as part of ISO:14001 accreditation
BAT 2	In order to improve the overall environmental performance of the plant, BAT is to use waste pre-acceptance, acceptance, tracking, segregation and compatibility procedures	Yes	Pre-acceptance and acceptance procedures are already in place as waste nitrous oxide cylinders are already accepted at the site.
BAT 3	In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1)	Yes	There are no liquid inputs or outputs and the only emissions to air are molecular nitrogen and oxygen.
BAT 4	In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques set out in the guidance such as storage optimisation, capacity and safety.	Yes	Existing procedures are in place for acceptance and handling. Nitrous oxide cylinders are stored inside a dedicated building in accordance with HSE document HSG71 - 'Chemical warehousing The storage of packaged dangerous substances'. While non-flammable in its own right N ₂ O is oxidising and hence flammable in the presence of reducing and / or combustible materials. The storage is in a separate lockable building which is of non-combustible concrete construction comprising segregated bays.

			Procedures are in place to ensure that waste is only accepted if there is sufficient space in storage.
BAT 5	In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures.	Yes	Existing procedures are in place for handling and transfer of cylinders.
BAT 6	For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).	n/a for this operation	n/a
BAT 7	BAT is to monitor emissions to water with at least the frequency set out in the guidance and in accordance with EN standards. 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.	n/a for this operation	n/a
BAT 8	BAT is to monitor channelled emissions to air with at least the frequency given below, and in accordance with EN standards. 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.	Yes	n/a
BAT 9	BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their	n/a for this operation	n/a

	calorific value, at least once per year using one or a combination of the techniques given below.		
BAT 10	BAT is to periodically monitor odour emissions.	Yes	n/a
BAT 11	BAT is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year.	Yes	As an installation these processes are already in place for the site and will capture the additional electricity consumption required by the destructor unit(s).
BAT 12	In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:	Yes	n/a
BAT 13	In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques given in the guidance.	Yes	Molecular nitrogen and oxygen are not odourous and no controls will be required.
BAT 14	In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given in the guidance	Yes	The destruction process is carried out inside a sealed unit and diffuse emissions or residual N ₂ O are minimal.
BAT 15	BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns) by using both of the techniques given in the guidance.	n/a for this operation	n/a

BAT 16	In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given in the guidance.	n/a for this operation	n/a
BAT 17	In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements: I. a protocol containing appropriate actions and timelines; II. a protocol for conducting noise and vibration monitoring; III. a protocol for response to identified noise and vibration events, e.g. complaints; IV. a noise and vibration reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures.	Yes	n/a
BAT 18	In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of techniques given in the guidance	Yes	The equipment will not produce significant amounts of noise and will be housed within a building well within the site perimeter.
BAT 19	In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques given in the guidance.	n/a	No consumption of water.

BAT 20	In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques given in the guidance.	n/a for this operation	n/a
BAT 21	In order to prevent or limit the environmental consequences of accidents and Incidents, BAT is to use all of the techniques given in the guidance, as part of the accident management plan (see BAT 1).	Yes	Set out in the site's Emergency Plan.
BAT 22	In order to use materials efficiently, BAT is to substitute materials with waste.	Yes	There is no raw material consumption.
BAT 23	In order to use energy efficiently, BAT is to use both of the techniques given in the guidance	Yes	The equipment is energy efficient, recovering heat generated required by the catalyst back to the incoming gas stream.
BAT 24	In order to reduce the quantity of waste sent for disposal, BAT is to maximise the reuse of packaging, as part of the residues management plan (see BAT 1).	n/a	There is very little packaging required by the process. Once emptied the metal cylinders and valves are sent for recycling.