

**Environmental Permitting (England and Wales)
Regulations 2016**

**Improvement Condition 8
BAT 19 Optimise water consumption, reduce waste water
generation and prevent/reduce emissions to soil and
water**

Permit Reference	EPR/PP3430UL
Date of Issue	July 2021
Version Number:	1
Report Reference	SRCL_PP3430UL_BRI_IC8

SRCL Ltd is a Stericycle company.

Indigo House • Sussex Avenue • Leeds • LS10 2LF

T: 0333 240 4400 • [stericycle.co.uk](https://www.stericycle.co.uk)

1. Introduction

The site Environmental Permit Reference PP3430UL, was subject to a BREF permit review in 2019, with the permit review being completed and issued on the 07th May 2021. As a result of this permit review the permit requires the submission of a report for Improvement Condition which states:

BAT 19 Optimise water consumption, reduce waste water generation and prevent/reduce emissions to soil and water

The operator shall submit to Natural Resources Wales information in order to evidence compliance with BAT 19 requiring the use of one or a combination of techniques in accordance with requirements specified within BAT Conclusion of the Waste Treatment BREF Document (EU 2018):

c) impermeable surface (information on how the site complies with CIRIA 736 or an equivalent engineering standard to which the surface complies together with sign off from construction by a Certified Quality Auditor)

This report is to satisfy this requirement and has been produced in-line with relevant guidance.

2. BAT 19 – Monitor emissions to air

The requirement of BAT 19 is 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 below.

Technique		Description	Applicability
a.	Water management	Water consumption is optimised by using measures which may include: • water-saving plans (e.g. establishment of water efficiency objectives, flow diagrams and water mass balances); • optimising the use of washing water (e.g. dry cleaning instead of hosing down, using trigger control on all washing equipment); • reducing the use of water for vacuum generation (e.g. use of liquid ring pumps with high boiling point liquids).	Generally applicable.
b.	Water recirculation	Water streams are recirculated within the plant, if necessary after treatment. The degree of recirculation is limited by the water balance of the plant, the content of impurities (e.g. odorous compounds) and/or the characteristics of the water streams (e.g. nutrient content).	Generally applicable.
c.	Impermeable surface	Depending on the risks posed by the waste in terms of soil and/or water contamination, the surface of the whole waste treatment area (e.g. waste reception, handling, storage, treatment and dispatch areas) is made impermeable to the liquids concerned.	Generally applicable.
d.	Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels	Depending on the risks posed by the liquids contained in tanks and vessels in terms of soil and/or water contamination, this includes techniques such as: • overflow detectors; • overflow pipes that are directed to a contained drainage system (i.e. the relevant secondary containment or another vessel); • tanks for liquids that are located in a suitable secondary containment; the volume is normally sized to accommodate the loss of containment of the largest tank within the secondary containment; • isolation of tanks, vessels and secondary containment (e.g. closing of valves).	Generally applicable.
e.	Roofing of waste storage and treatment areas	Depending on the risks posed by the waste in terms of soil and/or water contamination, waste is stored and treated in covered areas to prevent contact with rainwater and thus minimise the volume of contaminated run-off water.	Applicability may be constrained when high volumes of waste are stored or treated (e.g. mechanical treatment in shredders of metal waste).

f.	Segregation of water streams	Each water stream (e.g. surface run-off water, process water) is collected and treated separately, based on the pollutant content and on the combination of treatment techniques. In particular, uncontaminated waste water streams are segregated from waste water streams that require treatment.	Generally applicable to new plants. Generally applicable to existing plants within the constraints associated with the layout of the water collection system.
g.	Adequate drainage infrastructure	The waste treatment area is connected to drainage infrastructure. Rainwater falling on the treatment and storage areas is collected in the drainage infrastructure along with washing water, occasional spillages, etc. and, depending on the pollutant content, recirculated or sent for further treatment.	Generally applicable to new plants. Generally applicable to existing plants within the constraints associated with the layout of the water drainage system.
h.	Design and maintenance provisions to allow detection and repair of leaks	Regular monitoring for potential leakages is risk-based, and, when necessary, equipment is repaired. The use of underground components is minimised. When underground components are used, and depending on the risks posed by the waste contained in those components in terms of soil and/or water contamination, secondary containment of underground components is put in place.	The use of above-ground components is generally applicable to new plants. It may be limited however by the risk of freezing. The installation of secondary containment may be limited in the case of existing plants.
i.	Appropriate buffer storage capacity	Appropriate buffer storage capacity is provided for waste water generated during other than normal operating conditions using a risk-based approach (e.g. taking into account the nature of the pollutants, the effects of downstream waste water treatment, and the receiving environment). The discharge of waste water from this buffer storage is only possible after appropriate measures are taken (e.g. monitor, treat, reuse).	Generally applicable to new plants. For existing plants, applicability may be limited by space availability and by the layout of the water collection system.

The techniques employed at the site were against BAT 19 in the BREF review process submitted on the 19/09/2019, which have been included below.

19	optimise water consumption, to reduce the volume of waste water generated and prevent or reduce emissions to soil and water	From the techniques listed in BAT 19 the following are applied: a) Water management b) Water recirculation Water used for the cleaning of the wheeled carts has been designed to limit the quantity of water used per cycle, and the rinse water is used as the wash water in the next cleaning cycle. c) Impermeable surfaces d) techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels
----	---	---

		Site surfaces are made up of impermeable surfaces. And all chemicals and waste is stored with secondary containment. • f) segregation of water streams. • g) adequate drainage infrastructure Process water and surface water are segregated. • h) design and maintenance provisions. Regular inspection and maintenance is undertaken at the facility. Equipment is located above ground on impermeable surfaces.
--	--	--

All waste received on site is received in UN approved packages that is then stored by the following:

- In 770ltr wheeled carts that are lockable, fully enclosed and leak-proof
- On pallets (or TFS overpack boxes on pallets) in UN approved primary packages are stacked upright and secured
- other approved containers such as re-usable sharps containers with their associated carts/cages in a designated, storage area
- Other approved containers on secondary bunding
- skips/compactors for offensive waste

So that all the waste is being stored on site is handled and managed to prevent any spillage, with all liquid waste being stored within a secondary containment offered by the wheeled cart or bund.

With regard to the action for:

c) impermeable surface (information on how the site complies with CIRIA 736 or an equivalent engineering standard to which the surface complies together with sign off from construction by a Certified Quality Auditor)

As pointed out in the permit review process, we are unsure why this action has been included.

The CIRIA guidance is used for the secondary and tertiary containment measures (Bunds) available on site and assessing their integrity.

We noted from the BREF that these requirements related primarily to the chemical waste sector that handles large volumes of liquid waste.

At Stericycle the waste received and stored at site are all in discreet containers (either in wheeled cart or appropriate bunds for dental waste) and subject to regular inspection as part of the daily site diary checks. Where the maintenance and daily inspection storage area and bunds are included in section 5.2 of the CIRIA736 guidance.

The infrastructure (site surfaces) are also included as part of the daily site diary check, and any issues noted would prompt remedial actions to be taken.

If this action is aimed to review the containment of accidental emissions then we believe that this is captured in improvement condition 1.

3. Conclusion

Techniques are in place to optimise the water consumption at the site and prevent or reduce emissions to soil or groundwater. Water usage at the facility continues to be reviewed, and consumption reported on an annual basis. Any changes to methods employed will be reported as part of that process.