Permit with introductory note

NORTH EAST LINCOLNSHIRE COUNCIL

POLLUTION PREVENTION AND CONTROL ACT 1999
Environmental Permitting Regulations 2016 (as amended)

Installation address

Blackrow Engineering Co. Ltd
Estate Road 7
South Humberside Industrial Estate
Grimsby
North East Lincolnshire
DN31 2TP

Permit Ref. no: EP/20230001

Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (S.I.2016 No. 1154) ("the EP Regulations") to operate an installation carrying out one or more of the activities listed in Part 2 to Schedule 1 of those Regulations, to the extent authorised by the Permit.

The permit includes conditions that have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by those conditions shall be subject to best available techniques, used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any condition within the permit.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Confidentiality

The Permit requires the Operator to provide information to North East Lincolnshire Council. The Council will place the information onto the public registers in accordance with the requirements of the EP Regulations. If the operator considers that any information provided is commercially confidential, it may apply to North East Lincolnshire Council to have such information withheld from the register as provided in the EP Regulations. To enable North East Lincolnshire Council to determine whether the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

Variations to the permit

Your Attention is drawn to the Variation Notification Procedure condition in the permit. This Permit may be varied in the future. If at any time the activity or any aspect of the activity regulated by the following conditions changes such that the conditions no longer reflect the activity and require alteration, the Regulator should be contacted.

Surrender of the permit

Where an Operator intends to cease the operation of an installation (in whole or in part) the regulator should be informed in writing, such notification must be made as specified in regulation 24(3) of the EP regulations.

Transfer of the permit or part of the permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 21 of the EP Regulations. A transfer will be allowed unless the Authority considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit.

Responsibility under workplace health and safety legislation

This Permit is given in relation to the requirements of the EP regulations. It must not be taken to replace any responsibilities you may have under Workplace Health and Safety legislation.

Appeal against permit conditions

Right to Appeal
You have the right of appeal against this permit within 6 months of the date of the decision. The Council can tell you how to appeal. You will normally be expected to pay your own expenses during an appeal.
You will be liable for prosecution if you fail to comply with the conditions of this permit. If found guilty, the maximum penalty for each offence if prosecuted in a Magistrates Court is £50,000 and/or 6 months imprisonment. In a Crown Court it is an unlimited fine and/or 5 years imprisonment.

Our enforcement of your permit will be in accordance with the Regulators "Compliance Code."

Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for the Environment, Food and Rural Affairs. Appeals must be made in accordance with the requirements of Regulation 31 and Schedule 6 of the EP Regulations.

Appeals should be received by the Secretary of State for Environment, Food and Rural Affairs. The address is as follows:

The Planning Inspectorate
Environmental Team, Major & Specialist Casework
Room 4/04 – Kite Wing
Temple Quay House
2 The Square, Temple Quay
BRISTOL
BS1 6PN
Tel: 0117 372 8726
Fax: 0117 372 8139

Please Note

An appeal brought under Regulation 31 (1) (b) and Schedule 6, in relation to the conditions in a permit will not suspend the effect of the conditions appealed against; the conditions must still be complied with.
In determining an appeal against one or more conditions, the Act allows the Secretary of State in addition to quash any of the conditions not subject to the appeal and to direct the local authority either to vary any of these other conditions.

End of introductory note

Permit issued under the Environmental Permitting Regulations (England and Wales) 2016 (as amended)

Permit

Permit Ref. No: EP/20230001

North East Lincolnshire Council (the Regulator) in exercise of its powers under Regulation 13(1) of the Environmental Permitting Regulations 2016 (S.I.2016 No. 1154) hereby permits.

Blackrow Engineering Co Ltd ("the operator"),

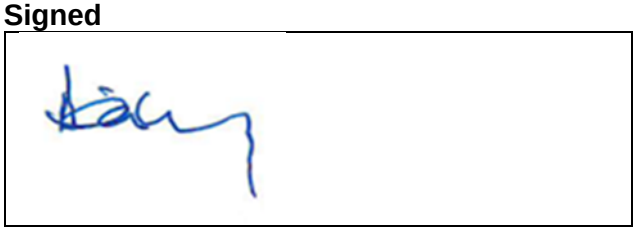
Whose registered office is:
Blackrow Engineering Co Ltd
Estate Road 7, South Humberside Industrial Estate
Grimsby
North East Lincolnshire
DN31 2TP

Company Registration. no: 1522249

To operate an installation at:
Blackrow Engineering Co Ltd
Estate Road 7, South Humberside Industrial Estate
Grimsby
North East Lincolnshire
DN31 2TP

to the extent authorised by and subject to the activity description, conditions of this Permit and within the boundary identified in Schedule 3, installation boundary.

Signed



Adrian Moody
Licensing & Environmental Protection Manager

Authorised to sign on behalf of
North East Lincolnshire Council

Dated

02.06.23

Schedule 1 - Activity description

Blackrow Engineering Co. Ltd operates a coatings activity as prescribed in Schedule 1, Part 2, Chapter 6, Section 6.4 part B a) iv) under the Environmental Permitting (England and Wales) Regulations 2016 (as amended). Grit blasting is also undertaken at the site as a Directly Associated Activity.

The site operates a dedicated spray booth for the spraying and respraying of metal conveyors using solvent-based paints. The painting process will be undertaken within a dedicated spray paint booth (TODD,TITAN CV) with integrated drying oven shown in site layout plan Schedule 4. During painting the spray booth shall operate under negative pressure. Volatile organic compounds ("VOC") released from the curing and drying of paint is extracted via local exhaust ventilation ("LEV"). Extracted air from both painting and drying / curing is exhausted to atmosphere via duplex filters incorporating a 50mm green EU2 paint stop filter and EU3 blue pre-filter. The emissions will be discharged to the atmosphere from the spray booth flue (stack location A1) shown in Schedule 4 – installation layout. The spray booth stack (stack location A1) is 15m above ground.

Conveyors are brought on to the site and stripped down to an appropriate level. Prior to paint spraying, metal conveyors are prepared in the grit blaster. Grit blasting will be undertaken within the dedicated insulated grit blasting room. Any large particles from the process fall onto the recovery floor, while airborne dust particles are carried by the flow of air generated by the dust collector which then filters collected air into an enclosed waste collection hopper. The dust collected is transferred to a lidded drum that will be collected via a licensed waste contactor. The remaining good abrasive is re-used within the grit blasting process, whilst spent abrasive and large contaminants that fall to the recovery floor will be segregated and stored in lidded containers until collected for disposal.

All spillages of dusty material will be cleared as quickly as possible. This will be achieved by the use of vacuum cleaning, wet methods or other appropriate techniques. The dry sweeping of dusty spillages will not be permitted.

All solvent-containing paints, cleaning agents, and thinners are delivered to site in various size sealed containers. Lids will remain on containers until the point of use. Storage areas will have secondary containment in place for any potential spillage / leakage. One of the paint products (Hardener) used on site will contain Isocyanates

Paint mixing activities and spray gun cleaning equipment cleaning will only be undertaken within in the paint preparation room that is connected to same extraction system fitted with filtration abatement as the dedicated spray booth. Paint mixing cups will be disposed of by placing in lidded containers

Paint coating is applied by High Volume Low Pressure (HVLP) method.

Containers which have held solvent material will be emptied as far as reasonably practicable before being crushed and placed into lidded containers. These will be collected by a licensed waste contractor. Containers and waste materials containing solvents will be kept separately and will remain lidded to prevent fugitive emissions of VOC.

The operator has elected the reduction criteria to achieve compliance.

The installation boundary and key items of equipment mentioned in permit conditions are shown in the plan attached to this permit.

Schedule 2 - Conditions

Emission limits

1. There shall be no offensive odour beyond the installation boundary as indicated in red on Schedule 3, as perceived by the regulator.

2. There shall be no visible particulate emissions from any part of the process.

3. Emissions from combustion processes in normal operation shall be free from visible smoke. During start up and shut down the emissions shall not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742.

   All other releases to air, other than condensed water vapour, shall be free from persistent visible emissions. All emissions to air shall be free from droplets.

4. The emission requirements, methods and frequency of monitoring set out in Table 1 shall be complied with. Sampling shall be representative and the reference conditions for limits in **Table 1** shall be: 273.1K, 101.3kPa, without correction for water vapour content, unless stated otherwise.

Table 1 - Emission limits, monitoring and other provisions for non-VOC releases

Row	Substance	Source	Emission limits / provisions	Type of Monitoring	Monitoring frequency
1	Particulate matter	New spraybooths	50 mg/Nm3 as 30-minute mean for contained sources	By guarantee supplied by the spray booth constructor	
		All other processes	50 mg/Nm3 as 30-minute mean for contained sources	Or Manual extractive testing	Annual
2	Isocyanates	All processes / activities using isocyanates	0.1mg/Nm3 as a 30 minute mean for contained sources excluding particulate and expressed as NCO.	Manual extractive testing	Annual

VOC Compliance

5. The operator has elected the reduction scheme to achieve compliance. The Operator shall demonstrate compliance with the Reduction Scheme by submitting the details of a Reduction Scheme to the Council for approval by 31st January 2024. The Scheme shall include in particular:

   - Mechanisms to decrease the average solvent content of the total input; and/or
   - Systems to increase efficiency in the use of solid to achieve a reduction of the total emissions from the installation.

   The approve plan shall implemented in full.

6. The annual actual solvent emission determined from the Solvent Management Plan and calculated in accordance with the methods shown in Schedule 5 of this Permit, shall be less than or equal to the Target Emission specified in Table 2 below:

Table 2 – Reduction Scheme: Target emission figures

Coating activity	
5-15 tonnes solvent consumption	Total mass of solids x 0.6
Over 15 tonnes	Total mass of solids x 0.37

7. The Operator shall submit a Solvent Management Plan (SMP), calculated as per Schedule 5 on or before 31st January 2024, and annually thereafter. The SMP shall include a determination of the 'annual actual solvent emission' and the annual consumption of both solvent and solids. The SMP shall also include a calculation that determines compliance with the reduction scheme requirement of Condition 6 of this Permit.

8. The Operator shall not, without prior written consent of the Regulator, undertake the following:
    - the replacement of a low or no organic solvent coating system with a conventional high organic solvent coating system, or
    - the introduction of such a conventional high organic solvent coating system into a process/activity; or
    - the introduction of such a conventional high organic solvent coating system onto a product where it was not in use before; or
    - the introduction of high solids formulations which have no beneficial effect on the product but increase the solids used, except where a reduction in the overall VOC emissions can be demonstrated.

Designated Risk Phrase Materials

9. The use of Designated Risk Phrase Materials is not permitted at this installation except where alternatives to their use does not exists. Use of such materials must comply with the Solvent Emissions Directive requirements (Articles 58, 59, 80(7)).

Monitoring records

10. The operator shall keep records of inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments. Records shall be:
    - kept on site;
    - kept by the operator for at least two years; and
    - made available for the regulator to examine.

11. If any records are kept off-site they shall be made available for inspection within one working week of any request by the regulator.

Information required by the regulator

12. The operator shall notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator shall state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.

13. The results of non-continuous emission testing shall be forwarded to the regulator within 8 weeks of completion of the sampling.

14. Adverse results from any monitoring activity (both continuous and non-continuous) shall be investigated by the operator as soon as the monitoring data has been obtained. The operator shall:
    - identify the cause and take corrective action;
    - clearly record as much detail as possible regarding the cause and extent of the problem, and the remedial action taken;
    - re-test to demonstrate compliance as soon as possible; and inform the regulator of the steps taken and the re-test results.

Abnormal events

15. In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the operator shall:
    - investigate and undertake remedial action immediately;
    - adjust the process or activity to minimise those emissions; and
    - promptly record the events and actions taken.

16. The regulator shall be informed without delay, whether or not there is related monitoring showing an adverse result:
    - if there is an emission that is likely to have an effect on the local community; or
    - in the event of the failure of key arrestment plant, for example, bag filtration plant or scrubber units.

17. The operator shall provide a list of key arrestment plant and should have a written procedure for dealing with its failure, in order to minimise any adverse effects.

18. In cases of non-compliance causing immediate danger to human health, or threatening to cause an immediate significant adverse affect upon the environment, operation of the activity must be suspended. All of following criteria shall be taken into account:
    - the toxicity of the substances being released;
    - the amount released;
    - the location of the installation; and
    - the sensitivity of the receptors

Compliance monitoring

19. For batch processes, where the production operation is complete within, say, 2 hours, then the extractive sampling shall take place over a complete cycle of the activity.

20. The introduction of dilution air to achieve emission concentration limits shall not be permitted.

21. Sampling points on new plant shall be designed to comply with the British or equivalent standards. The operator shall ensure that relevant stacks or ducts are fitted with facilities for sampling which allow compliance with the sampling standards.

Start up and shutdown

22. All appropriate precautions shall be taken to minimise emissions during start-up and shut-down.

Process operations

23. All paint spraying operations shall be carried out in a totally enclosed booth (with extraction running) under negative pressure, to prevent fugitive emissions of VOCs.

24. Spray applied coatings shall be applied using the following methods:

    - high volume low pressure (HVLP) (maximum atomisation pressure 67.5kPa) spraying equipment.

25. Paint shall be measured on demand using ratio sticks. Both primer and paint will be made in batches of 10L at a time. The ratio for colour will be 2.5/1 of colour and activator and primer 3/1 of primer and activator. Batch mixing of more than 10 litres at a time shall not take place to minimise waste.

26. Paint mixing and spray gun cleaning shall only take place within the paint preparation room that is connected to same extraction system fitted with filtration abatement as the dedicated spray booth. Extraction shall be running during the mixing and spray gun cleaning activity.

27. Spray gun and equipment cleaning shall be carried out using a dedicated gun cleaning machine with automatic and manual settings. Automatic shall be used for all equipment which is not fixed to a hose. Where equipment is fixed to a hose they will be cleaned with the manual setting within the paint mixing room with the extraction running. The cleaning machine shall be provided with the minimum of exhaust ventilation that is necessary to prevent the fugitive emission of organic solvent vapour when the machine is opened for introduction or removal of equipment, or for the changing of cleaning solvent.

28. All spray gun testing and sprayout following cleaning shall be carried out in either an equipment cleaning machine with the extraction running or into a chamber which is provided with extraction which is running in accordance with a written procedure a copy of which shall be made available to the regulator upon request. The operator shall inform the Council in writing of any significant changes to the written procedure.

29. Within 1 month of the date of this Permit a procedure to monitor and record the consumption of organic solvent against product produced shall be used to minimise the amount of excess organic solvent, this shall be made available to the Regulator upon request.

30. Operations likely to generate particulate matter shall be continuously monitored to indicate the performance of the abatement plant, by using equipment such as a pressure drop indicator.

31. Where necessary, the nitrogen content of the fuel and other material being burnt shall be controlled.

32. Where necessary, low NOx burners shall be installed.

33. All potentially odorous waste materials shall be stored in suitable closed containers or bulk storage vessels, where appropriate vented to suitable abatement plant.

34. Inks/coatings containing VOC shall be stored in closed storage containers.

35. All measures shall be taken to minimise VOC emissions during mixing, i.e. the use of covered or closed mixing vessels.

36. Emissions from the emptying of mixing vessels and transfer of materials shall be adequately contained, preferably by the use of closed transfer systems. This may be achieved by the use of closed mobile containers, containers with close-fitting lids, or, preferably, closed containers with pipeline delivery.

37. Cleaning operations involving organic solvents shall be periodically reviewed, normally at least once every two years, to identify opportunities for reducing VOC emissions (e.g. cleaning steps that can be eliminated or alternative cleaning methods). The regulator shall be provided with a report on the conclusions of the review.

38. Cleaning solvents shall be dispensed by a piston type dispenser or similar contained device, when used on wipes.

39. When organic solvent is used on wipes:

    - pre-impregnated wipes shall be held within an enclosed container prior to use;
    - where practicable no organic solvent cleaning fluids or significantly less volatile organic solvents cleaning fluids shall be used (with or without the addition of mechanical, chemical or thermal enhancements).

40. All solvent containing coatings, thinners and related materials and equipment cleaning materials shall be stored:
    - in the containers in which they were supplied, with the lid securely fastened at all times other than when in use;
    - within spillage collectors, of suitable impervious and corrosion-proof materials and capable of containing 110% of the largest container;
    - away from sources of heat.

41. All reasonably practicable efforts shall be made to minimise the amount of residual organic solvent bearing material left in drums and other containers after use.

42. Prior to disposal, empty drums and containers contaminated with organic solvent shall be closed to minimise emissions from residues during storage prior to disposal and labelled, so that all personnel who handle them are aware of their contents and hazardous properties.

43. Prior to disposal used wipes and other items contaminated with organic solvent shall be placed in a suitably labelled metal bin fitted with a self-closing lid.

44. Waste solvents and waste coatings shall be recycled off-site. Copies of receipts of waste materials sold for recycling shall be kept for two years.

45. All emissions of VOC and particulate matter from the spraybooth shall be emitted from stack location point A1, as shown in Schedule 4. The stack shall be 15m above ground.

46. Flues and ductwork shall be cleaned to prevent accumulation of materials, as part of the routine maintenance programme.

Dust and spillage control

47. Suitable organic solvent containment and spillage equipment shall be readily available in all organic solvent handling areas.

48. Dusty wastes shall be stored in closed containers and handled in a manner that avoids emissions.

49. A high standard of housekeeping shall be maintained.

Environmental Management System

50. Within 6 months of the date of this Permit a structured Environmental Management System (EMS) shall be in place. The EMS shall establish objectives, set targets, measure progress and revise objectives according to results for the implementation of all aspects of this Permit. The EMS and associated records shall be kept on-site and made available upon request.

    The EMS shall include the following:
    - Cleaning and maintenance
    - Training and plant operation
    - Plant failures
    - Record keeping.

Training

51. All staff whose functions could impact on air emissions from the activity shall receive appropriate training on those functions. This shall include:

    - awareness of their responsibilities under the permit;
    - steps that are necessary to minimise emissions during start-up and shutdown;
    - actions to take when there are abnormal conditions, or accidents or spillages that could, if not controlled, result in emissions.

52. The operator shall maintain a statement of training requirements for each post with the above mentioned functions and keep a record of the training received by each person. These documents shall be made available to the regulator on request.

Maintenance

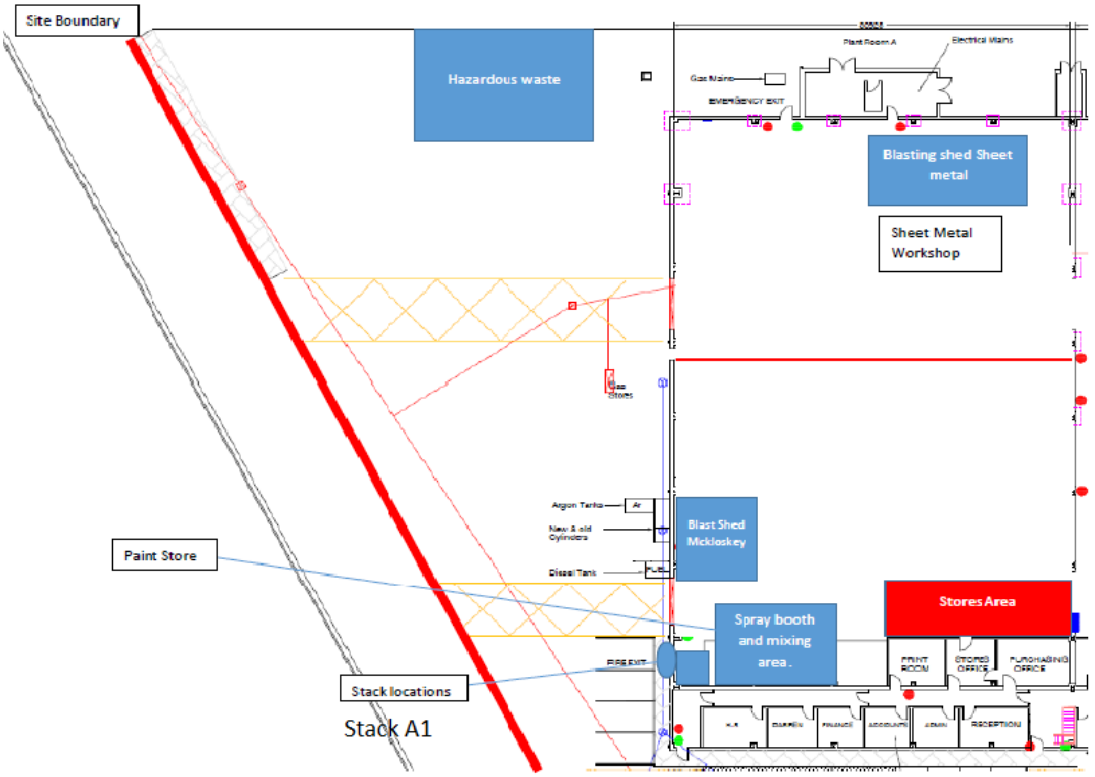
53. The operator shall have the following available for inspection by the regulator:

    - a written maintenance programme for all pollution control equipment; and
    - a record of maintenance that has been undertaken.

End of Permit

Schedule 3 – Installation Boundary

Schedule 4 – Site Layout Plan



Schedule 5 – The Reduction Scheme

An operator may choose to use the reduction scheme for an installation to achieve emission reductions to a 'target emission'

The operator shall forward an emission reduction plan, which includes in particular:

a) mechanisms to decrease in the average solvent content of the total input; and/or
b) systems to increase efficiency in the use of solids to achieve a reduction of the total emissions from the installation.

The target emission from an installation shall be calculated by multiplying the total mass of solids in the quantity of coatings used in a year with the relevant figure given in the table below.

Reduction Scheme: Target emission figures

Coating activity	
5-15 tonnes solvent consumption	Total mass of solids x 0.6
Over 15 tonnes	Total mass of solids x 0.37

In determining the total mass of solids:

- all ingredients other than water and organic solvents shall be assumed to form part of the solid coating; and
- solids are all materials in coatings that become solid as a result of curing, polymerisation, or the evaporation of the water or solvent **(usually available from the supplier in g/l or non-volatile % mass by weight).**

In cases of doubt, the reference standard for the determination of non-volatile % mass by weight is BS EN ISO 3251 (also numbered BS 3900: B18). The test conditions may need to be adjusted for the particular conditions of use or when assessing chemically or radiation cured coatings, where otherwise volatile components react to form part of the dry solid coating.

Compliance with reduction scheme is achieved if the annual actual solvent emission determined from the solvent management plan is less than or equal to the target emission.

Where the annual **actual solvent emission = I1-O8-O7-O6** (-O5 if abatement has been used).

Determination of solvent consumption

A determination of the organic solvent consumption, the total mass of organic solvent Inputs minus any solvents sent for reuse/recovery off-site, shall be made and submitted to the regulator annually, preferably to coincide with the operators stocktaking requirements.

This shall be in the form of a mass balance in order to determine the annual actual consumption of organic solvent (C):

Where: C = I1- O8

The definitions

Inputs of organic solvents

I1 The quantity of organic solvents or their quantity in mixtures purchased which are used as input into the process/activity (including organic solvents used in the cleaning of equipment, but not those used for the cleaning of the products).

I2 The quantity of organic solvents or their quantity in mixtures recovered and reused as solvent input into the process/activity. (The recycled solvent is counted every time it is used to carry out the activity.)

Outputs of organic solvents

O1 Emissions in waste gases.

O2 Organic solvents lost in water, if appropriate taking into account waste water treatment when calculating O5.

O3 The quantity of organic solvents which remains as contamination or residue in products output from the process/activity.

O4 Uncaptured emissions of organic solvents to air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings.

O5 Organic solvents and/or organic compounds lost due to chemical or physical reactions (including for example those which are destroyed, e.g. by thermal oxidation or other waste gas or waste water treatments, or captured, e.g. by adsorption, as long as they are not counted under O6, O7 or O8).

O6 Organic solvents contained in collected waste.

O7 Organic solvents, or organic solvents contained in mixtures, which are sold or are intended to be sold as a commercially valuable product.

O8 Organic solvents contained in mixtures recovered for reuse but not as input into the process/activity, as long as not counted under O7.

O9 Organic solvents released in other ways.