

## Permit activity:

# Schedule 20 generic permit template



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## Schedule 1      Production of organic chemicals

**Purpose:** This schedule identifies the industrial activity that can be carried on. It ensures operations are carried out in a way that reduces risk to the environment and requires minimum environmental standards to be met at all times, so that local communities are protected.

### Section 1:    The authorised activities

#### 1.1      Authorised activities

- 1.1.1    The permit authorises the operation of the installation described in 1.1.4, where the authorised activities in 1.1.3 are carried out together with the activities in 1.1.5, as detailed in this schedule, at the authorised place shown on location plan 1.
- 1.1.2    The authorised activities are:
- (a)    The production of organic chemicals as described in SCHEDULE 20, PART 4, CHAPTER 4, Paragraph 16 of the Regulations.
- 1.1.3    The stationary technical unit forming part of the installation, includes the following:
- Omega 3 rich algae production and processing plant with a capacity of 65 m<sup>3</sup> containing:
- (a)    3 bioreactor/fermentation modules with a total capacity of 65 m<sup>3</sup> (inclusive of CIP systems)
  - (b)    pre-production Pasteurisation system
  - (c)    post-production Pasteurisation system
  - (d)    centrifugation system
  - (e)    product drying System

- (f) milling equipment
- (g) product packaging system

1.1.5 The directly associated activities forming part of the installation, are:

- (a) Odour abatement plant to treat off gases from the Omega 3 rich algae production process.
- (b) An effluent collection system to collect the centrate, condensate, and liquid effluent wastes, from the production process with storage in associated effluent storage tanks.
- (c) The operation of utilities and services including air compression, nitrogen generation and storage, cooling/chilling equipment, heat recovery equipment, and steam generation.
- (d) The operation of storage, handling and dispatch facilities for all raw materials, wastes, products, and their intermediates.

## **Section 2: General requirements**

### **2.1 Written management system**

- 2.1.1 The authorised person must have a written management system in place.
- 2.1.2 The authorised person must regularly carry out a review of the management system and its effectiveness in terms of achieving compliance with the conditions of the authorisation.

### **2.2 Commissioning**

- 2.2.1 As part of the commissioning of the installation, validation tests must be carried out that demonstrate that the installation can be operated in compliance with the conditions of this authorisation.
- 2.2.2 An end of commissioning report must be submitted to SEPA within 4 weeks of completing the commissioning of the installation.

### **2.3 Decommissioning**

- 2.3.1 SEPA must be notified if there is a planned cessation of all, or any part of, the authorised activities for any period exceeding 12 months.
- 2.3.2 On final cessation of activities, measures must be taken to return the installation to a satisfactory state.

### **2.4 Ceasing operations**

- 2.4.1 In the event of a breach of conditions that poses an immediate danger to human health or threatens to cause an immediate significant adverse effect upon the environment, the operation of an installation or plant must cease without delay until compliance is restored.

## **2.5 Resource efficiency**

- 2.5.1 The authorised activities must be undertaken in a manner that uses resources efficiently and minimises the production of waste.

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## Section 3: Pollution control

### 3.1 Start-up and shut-down

- 3.1.1 The number of start-ups and shut-downs should be kept to the minimum that is reasonably practicable.
- 3.1.2 All reasonable steps must be taken to minimise emissions during start up and shut-down.

### 3.2 Emissions

- 3.2.1 Measures must be taken to prevent, or where that is not practicable, minimise:
  - (a) odour;
  - (b) noise;
  - (c) dust;
  - (d) heat emissions; and
  - (e) aerosols;from the authorised activities.
- 3.2.2 Other than condensed water vapour, all releases to the air during normal operation must be free from visible emissions.
- 3.2.3 Offensive odours from the authorised activities as perceived by a SEPA officer must not be emitted beyond the boundary of the authorised place.
- 3.2.4 Noise from the authorised activities, which has a significant impact on the environment, people or property, must not be emitted beyond the boundary of the authorised place.
- 3.2.5 Dust from the authorised activities, which has a significant impact on the environment, people or property, must not be emitted beyond the boundary of the authorised place.

- 3.2.6 Aerosols from the authorised activities, which have a significant impact on the environment, people or property, must not be emitted beyond the boundary of the authorised place.
- 3.2.7 The authorised activities must not have a significant impact on the water environment as a result of:
- (a) iridescence/sheen;
  - (b) discolouration;
  - (c) deposition of solids;
  - (d) increased foaming; or
  - (e) microbiological growth.
- 3.2.8 There must be no discharge of any hazardous substance or pollutant to soil or groundwater.
- 3.2.9 Other than as specifically authorised, the authorised activities must not cause environmental harm.

### 3.3 Emission points – Air

- 3.3.1 Point source emissions to air from the installation must only be made from the emission points referenced in Table 1 of this schedule, as shown on the plan in Appendix 1.
- 3.3.2 For emission point reference number A1 in Table 1 of this schedule:
- (a) the stack height must be approximately 3 metres above the roof ridge height of the building on which it is located
  - (b) the stack diameter must be 0.75 metres.

### **3.4 Emission limit values – Air**

- 3.4.1 Emissions to the air from the installation, must not exceed the emission limit value specified in Table 1 of this schedule.
- 3.4.2 Air must not be added to dilute emissions in order to achieve the emission limit values specified in Table 1 of this schedule.

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**Table 1: Emissions: limits and monitoring requirements – air**

| Parameter                               | Emission limit value (Units) | Emission point reference number | Emission source             | Operational mode      | Monitoring frequency  | Reference period | Monitoring method |
|-----------------------------------------|------------------------------|---------------------------------|-----------------------------|-----------------------|-----------------------|------------------|-------------------|
| Total Volatile Organic Compounds (TVOC) | 20 mg/m <sup>3</sup>         | A1                              | Dryer unit abatement system | Normal operating mode | Once every six months | N/A              | BS EN 12619       |

## Section 4: Environmental monitoring

### 4.1 Monitoring requirements

- 4.1.1 Monitoring must be undertaken to the frequency and standard as specified in Tables 1 of this schedule.
- 4.1.2 All monitoring and laboratory analysis must be undertaken by an organisation, or organisations, accredited to BS EN ISO/IEC 17025, or any subsequent revision or replacement of that standard as recognised by the UKAS.
- 4.1.3 Sample locations must be provided, maintained and appropriately identified so that representative samples may be safely obtained.

### 4.2 Soil and groundwater

- 4.2.1 Soil and groundwater monitoring must be undertaken as specified in Table 4 of this schedule.

**Table 4: Monitoring requirements – soil and groundwater**

| Relevant hazardous substances                              | Operational area                                                                                                                                                                              | Soil monitoring frequency | Groundwater monitoring frequency |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------|
| As per the monitoring plan submitted under condition 4.2.2 | The Monitoring plan submitted under condition 4.2.2 must include the locations of all activities that use, store, produce, or release, relevant hazardous substances including waste streams. | 10 Years                  | 5 Years                          |

- 4.2.2 A soil and groundwater monitoring plan to achieve the requirements of Table 4 of this schedule must be submitted to SEPA at least 3 months prior to any monitoring taking place.

## Section 5: Infrastructure

### 5.1 Surface and drainage system requirements

- 5.1.1 The drainage system at the authorised place must be maintained.
- 5.1.2 The authorised person must maintain plans that detail the authorised place drainage system including subsurface infrastructure.

### 5.2 Liquid storage requirements

- 5.2.1 Containers used to store liquid must be:
  - (a) of sufficient strength and structural integrity;
  - (b) installed in a manner to ensure that they are unlikely to burst or leak in their ordinary use;
  - (c) kept closed; and
  - (d) stored within a secondary containment system.
- 5.2.2 All secondary containment systems must:
  - (a) hold at least:
    - (i) for a single container, 110% of its total capacity; or
    - (ii) for two or more containers the greater of:
      - 1. 110% of the capacity of the largest container; or
      - 2. 25% of the capacity of all containers together.
  - (b) catch all spills from the container(s) and related parts;
  - (c) be leak-proof;
  - (d) be located and/or protected, to prevent damage as far as reasonably practicable; and
  - (e) have any spills and/or rainwater removed as soon as reasonably practicable.

### 5.3 Waste handling and storage requirements

5.3.1 All waste storage areas must be clearly labelled to allow the identification of:

- (a) the waste type(s) being stored; and
- (b) the hazards presented by each waste type.

5.3.2 The authorised person must maintain a record of the location, estimated quantities and types of all wastes produced within the installation.

5.3.3 Residue and waste materials must be handled and stored as described in Table 5 of this schedule.

**Table 5: Waste handling and storage**

| Description of waste                                                         | Location of storage     | Method of storage                             | Storage conditions                                                                                     |
|------------------------------------------------------------------------------|-------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Mixed dry recyclables (paper, cardboard, plastics)                           | Site Yard               | Segregated bins / lidded bins / skips / baled | Outdoors on hard standing area                                                                         |
| Off-specification product (liquid), centrate, condensate                     | Within process building | Tank storage on site.                         | Dedicated tank storage on site, must be:<br>(a) segregated<br>(b) in sealed container(s)<br>(c) banded |
| Off-specification product (powder), dust from abatement plant (e.g. filters) | Within process building | Sealed containers / bags.                     | must be:<br>(a) segregated<br>(b) in sealed container(s)<br>(c) on hard standing area                  |

| Description of waste                                             | Location of storage     | Method of storage            | Storage conditions                                                     |
|------------------------------------------------------------------|-------------------------|------------------------------|------------------------------------------------------------------------|
| Used oils and lubricants                                         | Site Yard               | Bunded drums                 | Outdoors on hard standing area                                         |
| Oily rags and absorbents, spent filters                          | Site Yard               | Sealed containers            | Outdoors on hard standing area                                         |
| Waste chemical storage                                           | Within process building | Sealed containers, bunded    | Must be:<br>(a) segregated<br>(b) in sealed container(s)<br>(c) bunded |
| Empty chemical containers                                        | Site Yard               | Drained, sealed containers   | Outdoors on hard standing area                                         |
| Waste electrical equipment, fluorescent tubes / lamps, Batteries | Site Yard               | Designated WEEE storage area | Outdoors on hard standing area                                         |

## Section 6: Record keeping and data submission

### 6.1 Proposed change in operation

- 6.1.1 SEPA must be notified via email to [registry@sepa.org.uk](mailto:registry@sepa.org.uk) in advance of any proposed change in operation that may have consequences for the environment, unless the authorised person has submitted a variation application for the permit that includes the proposed change.

### 6.2 Record keeping – general requirements

- 6.2.1 All information recorded, kept or submitted to SEPA in accordance with a condition of this authorisation must be:
- (a) true and accurate,
  - (b) provided to SEPA upon request, and
  - (c) kept for the retention period specified in Table 6 of this schedule.

**Table 6: Retention of information requirements**

| Information                                                                                                                      | Retention period                 |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Soil and groundwater monitoring                                                                                                  | Until surrender of authorisation |
| All records and reports of any environmental event that has, or might have, impacted on the condition of any soil or groundwater | Until surrender of authorisation |
| All other information                                                                                                            | Six years                        |

## 6.3 Resource utilisation

- 6.3.1 Annual data totals of raw materials, energy utilised, emissions, and waste produced within the installation, must be recorded in the relevant section of SEPA template IND-T-001.
- 6.3.2 A report detailing a review of resource utilisation at the installation must be submitted annually. The report must:
- (a) include the annual data totals required in 6.3.1 of this schedule;
  - (b) identify ways to reduce where possible raw materials, water used, energy utilised, emissions, and waste produced; and
  - (c) demonstrate that where possible resource utilisation is improving at the installation year-on-year.
- 6.3.3 For the purposes of 6.3.2(a) of this schedule “raw materials”, “energy” and “fuel” must, as a minimum, include the materials listed in Table 1 in Appendix 2.

## 6.4 Soil and groundwater protection assessment report

- 6.4.1 At least every four years, an assessment of the condition of the installation and infrastructure designed to prevent emissions from the installation to soil and groundwater must be undertaken and reported to SEPA. The assessment report must include:
- (a) a review of the effectiveness of the infrastructure designed to prevent emissions to soil and groundwater;
  - (b) a review of records of any management actions or procedures used to prevent emissions to soil and groundwater and an assessment of their effectiveness;
  - (c) details of any actions required to maintain the infrastructure so that it prevents emissions to soil and groundwater;

- (d) a CCTV, video or appropriate equivalent survey of the drainage systems and process area to ensure their structural integrity and to identify any remedial actions required;
- (e) the details of corrective actions required to remedy any contamination that has occurred as a result of the authorised activities; and
- (f) the details of any additional measures that are required to prevent emissions to soil and groundwater.

## 6.5 Reporting and notification requirements

6.5.1 Where any condition of this authorisation requires information to be reported or notified to SEPA, a report or notification must be forwarded to SEPA at [registry@sepa.org.uk](mailto:registry@sepa.org.uk) by the date(s), the period, and the frequency, specified in Table 7 of this schedule.

**Table 7: Reporting and notification requirements**

| Summary of information to be reported or notified | Condition / section of this schedule | Date / within period / frequency to be reported         |
|---------------------------------------------------|--------------------------------------|---------------------------------------------------------|
| End of commissioning report                       | 2.2.2                                | Within 4 weeks of completing commissioning              |
| Planned shut down period exceeding 12 months      | 2.3.1                                | 2 months prior to period of non-operation               |
| Environmental monitoring results                  | 4.1                                  | No later than 2 months after monitoring has taken place |
| Soil and Groundwater monitoring                   | 4.2.1                                | As per Table 4 of this schedule                         |
| Soil and Groundwater monitoring plan              | 4.2.2                                | 3 months prior to monitoring taking place               |

| Summary of information to be reported or notified | Condition / section of this schedule | Date / within period / frequency to be reported |
|---------------------------------------------------|--------------------------------------|-------------------------------------------------|
| Proposed change in operation                      | 6.1.1                                | As required                                     |
| Resource utilisation                              | 6.3.2                                | Annually before 31 January                      |
| Soil and Groundwater protection assessment report | 6.4.1                                | Every 4 years                                   |

## Schedule 2 Environmental events

### Section 1: Events notification and reporting

#### 1.1 Notification of SEPA

- 1.1.1 SEPA must be notified via its pollution hotline contact telephone number as soon as reasonably practicable, and in any case within 24 hours of identification of an event, of any of the following:
- (a) An event that has caused or could cause adverse impact to the environment or harm to human health;
  - (b) An event that results, or could result, in an emission to the environment that is not authorised by this permit;
  - (c) An event that has caused a breach of a condition of this authorisation.

In this condition, the meaning of 'event' is as defined in the Interpretation of terms of this authorisation.

#### 1.2 Management of the event

- 1.2.1 All measures that are reasonably practicable must be taken to stop an event, as described in 1.1.1 of this schedule and to minimise its effect on the environment.

#### 1.3 Reporting of the event

- 1.3.1 Within 14 days of an event as described in 1.1.1 of this schedule a report must be submitted to SEPA detailing:
- (a) The reason(s) for the event;
  - (b) The action(s) taken to stop the event and minimise the impacts; and
  - (c) The action(s) taken to prevent the event from recurring.

## Schedule 3 Interpretation of terms

**Table 1: Interpretation of terms**

| Term                         | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| abatement / arrestment plant | Equipment used to mitigate the effects of emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| authorisation                | The document provided to applicants by SEPA, authorising the activity applied for.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| change in operation          | A 'change in operation' means a change in the nature or functioning of a Schedule 20 installation, or an extension of the installation or plant which may have consequences for the environment. It does not include changes that do not alter the current environmental impact. It can include both positive and negative changes.                                                                                                                                                                                                                             |
| commissioning                | The commencement in operation of the installation or part of the installation, for the first time following construction, or after any significant modification or change. It includes: the planning and management of the commissioning of the installation or part thereof; functional testing of equipment; introducing process materials to the plant; resolution of technical and procedural problems; confirmation that all aspects of the plant operate as designed or planned; and confirmation the plant operates within the conditions of the permit. |
| dust                         | Suspended solid particles and liquid droplets suspended in air which may be deposited on surface and may cause air pollution and/or nuisance.                                                                                                                                                                                                                                                                                                                                                                                                                   |

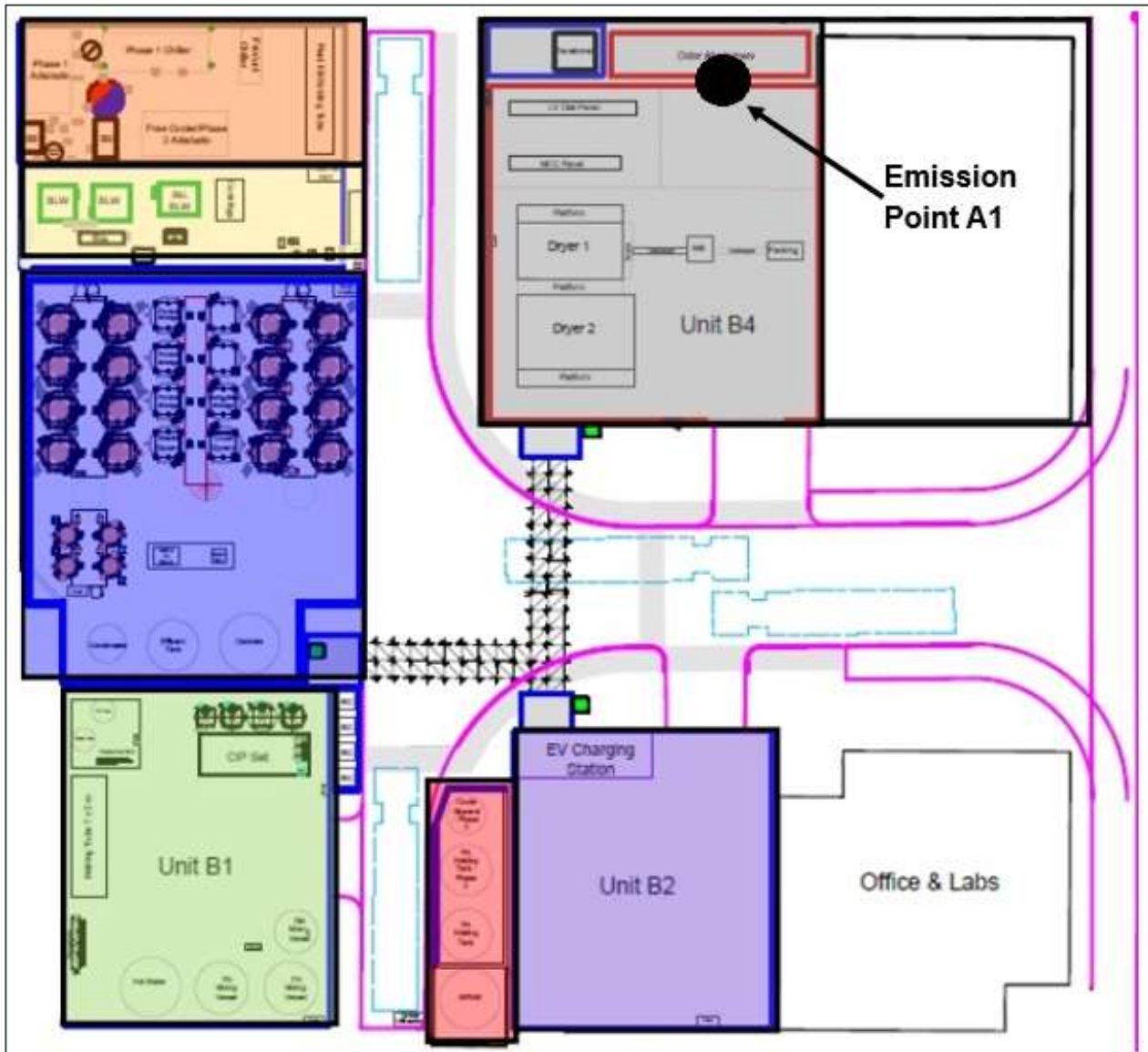
| Term                 | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| emission limit value | <p>The mass, expressed in terms of specific parameters, concentration or level of an emission, which may not be exceeded during one or more periods of time.</p> <p>All air emission limit values are to be calculated:</p> <ul style="list-style-type: none"> <li>(a) At a temperature of 273.15K,</li> <li>(b) At a pressure of 101.3kPa, and</li> <li>(c) After correction for the water vapour content of the waste gases,</li> </ul>                                                                                                                                                                                                  |
| environmental harm   | <ul style="list-style-type: none"> <li>(a) Harm to the health of human beings or other living organisms,</li> <li>(b) Harm to the quality of the environment, including: <ul style="list-style-type: none"> <li>(i) Harm to the quality of the environment taken as a whole,</li> <li>(ii) Harm to the quality of air, water or land, and</li> <li>(iii) Other impairment of, or interference with, ecosystems,</li> </ul> </li> <li>(c) Offence to the sense of human beings,</li> <li>(d) Damage to property, or</li> <li>(e) Impairment of, or any interference with, amenities or other legitimate uses of the environment.</li> </ul> |
| event                | <ul style="list-style-type: none"> <li>(a) Any accident which has caused or could cause environmental harm; or</li> <li>(b) Any malfunction, breakdown or failure of plant, infrastructure or techniques which has caused or could cause environmental harm; or</li> <li>(c) Force majeure or action taken to save human life or limb.</li> </ul>                                                                                                                                                                                                                                                                                          |

| Term                         | Definition                                                                                                                                                                           |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IND-T-001                    | SEPA template for the Systematic Assessment of Resource Use and Efficiency for EASR Industrial Activities permit.                                                                    |
| normal operation             | Operation of the authorised activities excluding periods such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages and definitive cessation of operations. |
| relevant hazardous substance | Hazardous substances that are capable of contaminating soil and groundwater based upon consideration of the chemical and physical properties of the substance.                       |
| resource                     | Resource means materials, products, water, waste, residues and energy used within or produced from the regulated process(es) and in any ancillary processes on site.                 |
| SEPA officer                 | Any person who is authorised in writing under Section 108 of the Environment Act 1995 to carry out duties on behalf of SEPA.                                                         |
| start-up                     | The starting or restarting of all or part of a process following shut-down of an authorised activity, before reaching minimum stable operating conditions.                           |
| UKAS                         | The United Kingdom Accreditation Service                                                                                                                                             |

Except where specified otherwise, any reference to an enactment or statutory instrument includes a reference to it as amended (whether before or after the date of the authorisation) and to any other enactment, which may after the date of the authorisation replace or amend it.



## Appendix 1: Emission points



## Appendix 2: Resource utilisation

Table 1: Resource type and unit of measurement

| Raw materials, energy or fuel | Unit of measurement     |
|-------------------------------|-------------------------|
| Fuel (Gas, oil, diesel, etc)  | m <sup>3</sup> , litres |
| Electricity                   | Kw                      |
| Water                         | m <sup>3</sup>          |
| Water treatment chemicals     | Litres/kg               |
| Disinfectant/detergents       | Litres/kg               |
| Refrigerants                  | Litres                  |
| Plastic Wrap                  | Kg                      |
| HFC                           | T                       |