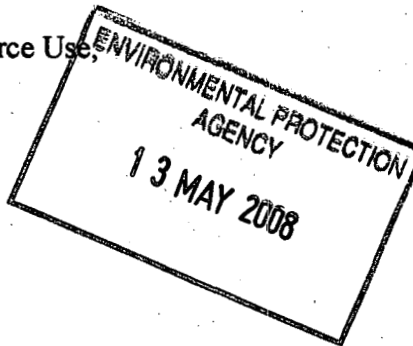


# Comhairle Contae Chorcaí Cork County Council

Environmental Department,  
Inniscarra, Co. Cork.  
Tel: (021) 4532700 • Fax (021) 4532727  
Web: [www.corkcoco.ie](http://www.corkcoco.ie)  
An Rannóg Comhshaoil,  
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Suíomh Gréasáin: [www.corkcoco.ie](http://www.corkcoco.ie)



Marie Harris ,  
Licencing Unit  
Office of Climate, Licencing and Resource Use,  
Environmental Protection Agency  
HQ Box 3000  
Johnstown Castle Estate  
County Wexford  
Ireland



12<sup>th</sup> May 2008

Subject :IPPC Reg. No. 0082-02 Micro-Bio(Ireland )Ltd ,Fermoy, Co. Cork

Dear Ms Harris ,

I wish to acknowledge receipt of the correspondence regarding the sanitary Authority response to Section 99E regarding a consent to discharge in relation to the above named premises.

The completed section 99 with respect to IPPC Register No.P0082-02 is attached to this letter. Cork County Council are agreeable to discharge limits and attached proviso statement as set out in the attached Section 99E request.

Should you have any queries or clarification my contact details are supplied below  
Phone no. 021-4532700/E mail [valerie.hannon@corkcoco.ie](mailto:valerie.hannon@corkcoco.ie)

Yours Sincerely

A handwritten signature in cursive script, reading 'Valerie Hannon'.

Valerie Hannon,  
A/Snr Executive Scientist,  
Environment Directorate,  
Cork County Council.

c.c. Frank Cronin , Senior Engineer Water Services North ,Cork County Council  
c.c. Flan Groarke Senior Executive Engineer ,Fermoy Office ,Cork County Council



**epa**

Environmental Protection Agency  
An Ghníomhaíocht um Chaomhú Comhshaoil

Environment Directorate  
Cork County Council  
Inmísca  
Cork  
Attn: Mr Louis Duffy, Director of Services

Headquarters, PO Box 3000  
Johnstown Castle Estate  
County Wexford, Ireland  
Ceannteathrú, Bosca Poist 3000  
Eastát Chaisleán Bhaile Sheáin  
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T: +353 53 916 0600  
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E: info@epa.ie  
W: www.epa.ie  
LoCall: 1890 33 55 99

**Attention: Director of Services (with responsibility for Sanitary Services Section)**

28 April 2008

Reg No: P0082-02

Dear Environment Directorate

I am to advise you that the Agency is currently revising the existing IPPC licence (Reg. No. P0082-01) granted to Micro-Bio (Ireland) Limited, Industrial Estate, Fermoy, County Cork. A copy of the information submitted in relation to the review, (Reg. No. P0082-02) is available to view on the Agency's website at [www.epa.ie](http://www.epa.ie).

The licensee proposes as part of the request to review to provide for changes to the discharge of process effluent to the sanitary authority's sewer. Process effluent includes trade effluent and other matter (other than domestic sewage or storm water). Details of the proposed emissions to the sanitary authority's sewer are contained in the submitted review information.

In accordance with Section 99E of the Environmental Protection Agency Acts 1992 to 2007, I am to request your consent to the proposed discharge. To this end, I enclose the relevant review information. I should also add that in accordance with the requirements of the EPA Acts, your consent may be subject to such conditions as the authority considers appropriate. Your attention is drawn to paragraph (4) of the attached copy of the relevant section of the Act as amended. For your convenience please find attached a reply form including a list of draft conditions compiled by the Agency.

In accordance with paragraph (2) of this section of the Act, you are requested to forward your response within 5 weeks of the date of this letter, i.e. 3<sup>rd</sup> June 2008. Please note that any decision given after the expiry period shall be invalid and in those circumstances the Agency may proceed to grant the licence concerned as if consent was obtained. Miss Maeve McHugh is dealing with this matter and she can be contacted at the Licensing Unit of the Agency, Tel. No. 021-4875540 if you have any queries.

Again, your co-operation in this matter is appreciated.

Yours sincerely

Marie Harris  
Programme Officer  
Office of Climate, Licensing & Resource Use

**SANITARY AUTHORITY RESPONSE****Name of Sanitary Authority:** *Cork County Council*

**Address:** *Inniscara  
Cork  
Attn: Mr Louis Duffy, Director of Services*

**Name of Facility:** *Micro-Bio (Ireland) Limited***IPPC Reg. No:** *P0082-02*

**Address:** *Industrial Estate  
Fermoy  
County Cork*

**Consent:** Indicate Yes to one of the following statements:

Consent granted subject to the consent conditions outlined below.	<i>Yes</i>
Consent granted without conditions.	<i>/</i>
Consent refused <sup>Note 1</sup>	<i>/</i>

**Note 1** Where it is proposed to refuse permission the reasons for the refusal should be clearly outlined in the response.

GENERAL CONSENT CONDITIONS	<u>Condition to be Included</u> (Yes/No)
1. The licensee shall permit authorised persons, of the Agency and Sanitary Authority, to inspect, examine and test, at all reasonable times, any works and apparatus installed in connection with the process effluent and to take samples of the process effluent.	<i>Yes</i>
2. The licensee shall at no time discharge or permit to be discharged into the sewer any liquid matter or thing that is or may be liable to set or congeal at average sewer temperature or is capable of giving off any inflammable or explosive gas or any acid, alkali or other substance in sufficient concentration to cause corrosion to sewer pipes, penstock and sewer fittings or the general integrity of the sewer.	<i>Yes</i>

**ADDITIONAL GENERAL CONSENT CONDITIONS**  
**In respect of discharges or emissions to sewers, in accordance with Section 99E**  
**of the Environmental Protection Agency Acts 1992 and 2003**  
(Specify, if required)

The attached S99E has been completed however the following proviso is to be included in the consent

"In the event that there is a deterioration in water quality at the EPA monitoring location @ LHS of the Blackwater Bdy in Fermoy that a joint approach between all dischargers at the location of this side of Fermoy bridge be utilised to resolve any potential problems and that a co-ordinated approach be set up by both parties to improve water quality"

Note: ! the kg/day limits have not been included. All values are absolute. mg/l or a/l. i.e. concentration values, this is because the actual volume of discharge is generally below the max allowable volume.

V. Hansen

# Limit Values for Process Effluent to Sewer

## Schedule B: Emission Limits

Emission point reference no: SE1

Emission to (sewer description): Surface Water Sewer

Volume to be emitted: Maximum in any one day: 320. m<sup>3</sup>  
Maximum rate per hour: 22 m<sup>3</sup>

Parameter (delete parameters which are not applicable)	Emission Limit Value	
	Daily Mean Concentration (mg/l)	Daily Mean Loading (kg/day)
BOD	/	/
COD	/	/
Suspended Solids	35.	
pH	6.5	8.0
Temperature	20°C	
<b>ADDITIONAL PARAMETERS</b> (if required)		
Sulphate.	3000 mg/l	
TPot - P	0.5 mg/l	
Chlorine.	<0.1 mg/l	
T.O.C.	20 mg/l	
THM.	1.0 mg/l	
Chloride.	70 g/l	
TDS	130 g/l	
VOC	1 mg/l	

THM. (List of Metals). As, Hg, Se, Cr, Cu, Pb, Ni, Ba, B, Zn

VOC (List) - Toluene, Xylene, Dichloromethane.

# Frequency of Monitoring Process Effluent to Sewer

## Schedule C

Emission point reference no: SE1

Parameter (delete parameters which are not applicable)	Monitoring Frequency (e.g. monthly, quarterly, annually)	Sample Type (grab, composite)
Flow to sewer	Continuous	/
Temperature	Continuous	/
pH	Continuous	/
BOD	/	/
COD	/	/
Suspended Solids	Weekly	Composite
<b>ADDITIONAL PARAMETERS</b> (if required)		
Sulphate	Weekly	Composite
TP <sub>04</sub> - P.	Monthly	Composite
Chlorine	Daily	Composite
TOC	Monthly	Composite
THM	2 per Year	Composite
Chloride	Daily	Composite
TDS	Daily	Composite
VOC	Annually	Composite

Signed on behalf of Sanitary Authority:

V. Hannon

A/Snr Exec Scientist

Ork Co. Council.

Sanitary Charger of £1000 / year. for monitoring  
of the surface water Discharger. of maintenance of SAGE.

## Section 99E of the Environmental Protection Agency Acts 1992 and 2003

99E.- (1) Where the Agency proposes to grant a licence (including a revised licence) which involves a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer, it shall obtain the consent of the sanitary authority in which the sewer is vested, or by which the sewer is controlled, to such a discharge being made.

(2) Where consent is sought in accordance with subsection (1), the Agency may specify a period (which period shall not in any case be less than 4 weeks from the date on which the consent is sought) within which the consent may be granted subject to, or without, conditions or refused; any consent purporting to be granted (whether subject to or without conditions) after the expiry of that period, or any decision given purporting to refuse consent after that expiry, shall be invalid and in those circumstances the Agency may proceed to grant the licence concerned as if the requirements of subsection (1) had been satisfied.

(3) Subject to subsection (4), a consent under subsection (1) may be granted subject to or without conditions and if it is granted subject to conditions the Agency shall include in the licence or revised licence concerned conditions corresponding to them or, as the Agency may think appropriate, conditions more strict than them.

(4) The conditions that may be attached to a consent by a sanitary authority under this section are the following and no other conditions, namely conditions-

(a) relating to-

(i) the nature, composition, temperature, volume, level, rate, and location of the discharge concerned and the period during which the discharge may, or may not, be made,

(ii) the provision, operation, maintenance and supervision of meters, gauges, manholes, inspection chambers and other apparatus and other means for monitoring the nature, extent and effect of discharges,

(iii) the taking and analysis of samples, the keeping of records and furnishing of information to the sanitary authority,

(b) specifying a date not later than which any conditions attached under this section shall be complied with,

(c) relating to, providing for or specifying such other matter as may be prescribed.

(5) A sanitary authority may request the Agency to review a licence or revised licence to which this section relates-

(a) at intervals of not less than 3 years from the date on which the licence or the revised licence is granted, or

(b) at any time with the consent, or on the application, of the person making, causing or permitting the discharge, or

(c) at any time if-

(i) the sanitary authority has reasonable grounds for believing that the discharge authorised by the licence or revised licence is, or is likely to be, injurious to public health or is likely to render the waters to which the sewer concerned discharges unfit for use for domestic, commercial, industrial, fishery (including fish-farming), agricultural or recreational uses or is, or is likely to be otherwise, a serious risk to the quality of the waters,

(ii) there has been a material change in the nature or volume of the discharge,

(iii) there has been a material change in relation to the waters to which the sewer concerned discharges, or

(iv) further information has become available since the date on which the licence or revised licence was granted relating to polluting matter present in the discharge concerned or relating to the effects of such matter,

and the Agency shall consider and may comply with such request and shall have regard to any submission on the matter received from the sanitary authority.

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#### D.1.B Fugitive and Potential Emissions

State whether the Council Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations apply to the operation:

Council Directive applies	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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If yes, Attachment N° D.1.B should include details of relevant category of activity in the Schedule and how the requirements in relation to fugitive emissions will be met.

Answer:

There are no organic solvents used on the site.

#### D.1.C Assessment of atmospheric emissions

If relevant, give summary details and an assessment of the impacts of any emissions (as detailed above) on the environment, including environmental media other than those into which the emissions are being made. The assessment should include details of relevant ambient air quality standards.

Details of the assessment and any other supporting information should form Attachment N° D.1.C.

Answer:

There are no significant impacts on the environment from any of the emissions from the site. Attachment D.1.C contains a Table detailing the concentrations and quantities emitted since 1993 for the three monitored emission points are these are insignificant.

#### D.2. Emissions to Surface Waters

Specify whether there has been a change in the quantity or nature of emissions to surface waters from that detailed in the original application or earlier review application, and/or specified in your existing licence:

Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
---	-----------------------------

If yes, provide further information as detailed below:

Answer:

The discharge from the on-site Effluent Treatment Plant enters a valve arrangement whereby at the discretion of the Sanitary Authority the discharge can be directed to the surface water discharge point or to the Sewage Treatment Plant in Fermoy. Given the nature of the discharge no further treatment of the discharge is possible in the town's Sewage Treatment Plant. Consequently the company has been directed by the Authority to discharge to the surface water discharge point which enters the River Blackwater downstream of the bridge in the town. This point is indicated in the Site Location Map 1 (MB1/01) contained in Attachment D.2.A.

#### D.2.A Emissions to Surface Water

Outline significant adjustments to the operations on site, if any, which has led to a change in the quantity or nature of emissions to surface waters.

A summary list of any revised emission points, together with maps/drawings (no larger than A3) and supporting documentation should be included as Attachment N<sup>o</sup> D.2.A.

The applicant should address in particular any emission point where those substances listed in the Schedule to the Environmental Protection Agency (Licensing) (Amendment) Regulations, 2004 (S.I. No. 394 of 2004) are emitted.

Answer: The company installed a Chlorate Decomposition System in 2003 which had the effect of allowing increased recycling of a waste brine stream reducing the discharge of Chloride to drain. However the net effectiveness of this system reduces with the age and efficiency of the membrane electrolysis cells which have to be renewed every 4-5 years.

State whether Water Quality (Dangerous Substances) Regulations, 2001 (S.I. No. 12 of 2001) apply to the operations on site:

Water Quality (Dangerous Substances) Regulations apply	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
--	------------------------------	--

If yes, include in Attachment N<sup>o</sup> D.2.A whether the operations on site comply with the prescribed standards set out in the S.I. No. 12 of 2001.

For emissions outside the BAT guidance level, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards in advance of 30<sup>th</sup> September 2007 is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the emission levels as set out in the BAT guidance note(s).

Answer:

See Section D.6 for a full discussion on BAT.

#### D.2.B Assessment of Impact on Receiving Surface Water

If relevant, give summary details and an assessment of the impacts of any emissions (as detailed above) on the environment, including environmental media other than those into which the emissions are to be made. The assessment should include details of relevant environmental quality standards or other legislative standards.

Details of the assessment and any other supporting information should form Attachment N<sup>o</sup> D.2.B.

Answer:

The treated effluent discharged from Micro-Bio is not further treated by the undertaker (Cork County Council) and discharges directly to the River Blackwater a few meters downstream of the bridge in Fermoy Town centre. The effluent is an inorganic liquid containing Chloride (salt).

The 95 percentile flow at Fermoy is 6.8 m<sup>3</sup>/s and the dry weather flow at Fermoy is 3.6 m<sup>3</sup>/s (Ref. River Blackwater Water Quality Management Plan). The maximum discharge permitted in the company's IPC Licence is 22 m<sup>3</sup>/hr representing 0.17% of the dry weather flow under worst conditions for one hour and represents 0.10% of the dry weather flow over a 24 hour period.

The 95 percentile flow is a useful indicator of the potential of a receiving water to assimilate the effluent discharge. Using this parameter the maximum effluent discharge of 320 m<sup>3</sup>/day (as per IPC Licence) is diluted 1895 fold in the receiving system. The impact of the effluent discharge on the receiving water is of no significance except for Chloride which at a discharge rate of 4500 kg/day (as per IPC Licence) will raise the background level by a few mg/lit which is also insignificant.

As the company is not seeking any change to its IPC Licence limits we can therefore say that there is no significant environmental impact from the discharge.

Best Available Techniques for Membrane Cell Plants also include the following and the company's status in regard to implementation:

1. Minimisation of Chlorate and Bromate discharges by applying:
  - Acid conditions in the anolyte to minimise the formation of Chlorate and Bromate-this is an integral step employed in the process since operation began.
  - Chlorate destruction in the brine circuit to remove chlorate before purging-a Chlorate destruction unit was installed in 2004 as part of a CGPP programme.
2. Appropriate Handling of spent membranes and gaskets-a procedure is in place to ensure spent membranes and gaskets are thoroughly cleaned prior to safe disposal.

#### Air Emissions

The Chlorine Scrubber (A2-1) complies with BAT and this is confirmed by the monitoring results.

The HCl Scrubbers are (a2-2 and A2-3) comply with BAT and this is confirmed by the monitoring results.

#### Effluent Discharge

The IPC licence limits and compliance are as follows:

Parameter	Conc. Limit mg/l	Mass Limit kg/day	Annual Compliance 2000-2006
pH	pH 6.0-9.0		100%
TOC	20	-	100%
Suspended Solids	35	-	100%
Total Dissolved Solids	130,000	10,000	100%
Total Phosphorus (as P)	2	-	100%
Chloride	70,000	4,500	100%
Chlorine	0.1	-	100%
Sulphate	5000	-	100%
Total Heavy Metals	1	-	100%

The BAT Guidance for Chloride indicates a lower Chloride emission range for the size of plant. However when one includes Chloride emissions as a result of Water Softening (salt brine is used to regenerate the softening resins) and neutralisation of waste hydrochloric Acid and Sodium Hydroxide used for regenerating the Water Demineralisation resins, together with elevated Chloride discharges during shut-down periods and as the membrane efficiency drops over time then the company would need to retain the limits already set out in its IPC Licence. The same applies to Sulphate and TDS emission limits.

The planned membrane change-out in late 2007/early 2008 will result in the plant efficiency increasing from ~92% to 95/96% with the following gains:

- Increased energy efficiency through lower electricity consumption per unit of production.
- Lower emissions of Brine Purge solution leading to reductions in the quantities of Chloride, Sulphate and TDS discharged.
- Greater yield of product per mt of salt used.

These reductions will over the life of the membranes (about 4-5 years) again disappear as membrane efficiency diminishes, so at the moment the company is nearing the end of a cycle during which time efficiency is at its lowest.

**Micro-Bio (Ireland) Ltd**

**CURRENTLY THERE IS NO EMISSION TO SEWER. DISCHARGE IS TO WATER AS DIRECTED BY FERMOY TOWN COUNCIL/CORK COUNTY COUNCIL**

**TABLE E.3(i): EMISSIONS TO SEWER (One page for each emission)**

**Emission Point:**

Emission Point Ref. NP:	SE1
Location of connection to sewer:	Effluent Treatment Outlet
Grid Ref. (12 digit 6E6N):	180600E 099311N
Name of sewage undertaker:	Fermoy Town Council

**Emission Details:**

(i) Volume to be emitted			
Normal/day	100 m <sup>3</sup>	Maximum/day	320 m <sup>3</sup>
Maximum rate/hour	22 m <sup>3</sup>		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (start-up / shutdown to be included):

Periods of Emission (avg)	60 min/hr 72 hr/day 365 day/yr
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**Micro-Bio (Ireland) Ltd.**

**CURRENTLY THERE IS NO EMISSION TO SEWER. DISCHARGE IS TO WATER AS DIRECTED BY FERMOY TOWN COUNCIL/CORK COUNTY COUNCIL**

**TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)**

**Emission point reference number: SE1**

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
pH	8-14	8-14	-	-	6.0-9.0	6.0-9.0	6.0-9.0	6.0-9.0	100%
Chloride	70,000	70,000	4,500	2,000,000	70,000	70,000	4,500	2,000,000	
TDS	130,000	130,000	10,000	3,500,000	130,000	130,000	10,000	3,500,000	
Sulphate	5,000	5,000	1,600	584,000	5,000	5,000	1,600	584,000	
Total Phosphorous (as P)	2	2	0.64	234	2	2	0.64	234	
Free/Combined Chlorine	5000	5000	1600	584,000	<0.1	<0.1	<0.032	<11.7	
Suspended Solids	200	200	64	23360	35	35	11.2	4086	
TOC	20	20	6.4	233.6	20	20	6.4	233.6	
THM	1	1	0.32	117	1	1	0.32	117	

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