

DATA FOR THE DEVELOPMENT OF MANUALS

1. TECHNOLOGICAL DATA

I. Description of the brief technological process

Provide a brief description of the process in the operated device (devices) in conjunction with the associated devices.

II Preparation for start-up (after a short or a long period)

Specify the steps preceding the start-up, such as checking for leaks, blowing, preparing the right path, etc.

III. Start-up (after a short or a long period)

Describe the subsequent steps during the start-up until the parameters provided for normal operation are reached.

IV. Normal operation

1. Describe activities during normal operation. Indicate the frequency of records in on-the-job reports.
2. Refer to applicable standards or describe the manner of sampling raw materials, products and inter-operational process control.

V. Process parameters

Provide in the form of tables:

1. parameters, impact of deviations on work safety and product quality,
2. quality requirements for the finished product or semi-product and analytical control on the job,
3. recipe.

VI. Retention (for a short or a long period)

Describe actions when stopping the installation, differentiating between normal and emergency stops.

VII Operational disorders and failures

Describe causes of the phenomena and the manner of operation for foreseeable operating disorders and failures.

VIII Cleaning and maintenance of devices

Describe required actions that are not covered by the operating manual.

IX. Analysis schedule

- a. Analytical control should be determined by needs of the process, as well as the capacity of the laboratory's analytical service scope.

- b. In addition, consider analytical inspection conducted with online meters and determinations performed on the installation directly by the operator.

X. Apparatus

The list of basic and auxiliary apparatuses and their characteristics must be prepared in the form of a table and include such data as may characterise the specific apparatus and the number of pieces, type of materials, output in tonnes or m³/h or day, method of protection against potential corrosion.

Heat exchangers should include heat exchange surface area, pumps – capacity and discharge height, rotating equipment – motor power, number of revolutions, pressure equipment – operating pressure, test pressure, tanks – volume in m³.

2. ENVIRONMENTAL DATA BASED ON GUIDELINES FOR THE DEVELOPMENT OF ENVIRONMENTAL PROTECTION MANUALS FOR PRODUCTION INSTALLATIONS*

Table of contents

I. Description of the production / packing / storage area in the Logistics Office covered by the manual

1. Location of the production / packing / storage area in the Logistics Office (plot no.) covered by the manual.
2. A brief, concise description of the technological processes as regards their environmental impact, showing the most important parameters characterising the unit processes conducted.
3. Description of possible options/regimes for the functioning of the production unit.
4. Types of raw materials and fuels used.
5. Location diagram of the most important technological apparatuses and devices and, if any, of the tank fields belonging to the production unit (tank parks falling under installations) – as Annex 1 to the manual.
6. Location diagram and description of the main and auxiliary and stand-by measurement devices, whose indications are used for the determination of substance emissions – as Annex 1a to the manual.

II List of decisions and permits

List of decisions and permits issued by the government authorities as regards the production unit.

The list should be prepared on the basis of *the Statement of Administrative Decisions in force at ANWIL S.A.* within the scope of environmental protection, located on the company-wide server in the DJ folder, updated in accordance with the procedure entitled

"Actions related to risks and opportunities. Planning and supervision of operational activities."

III. Identification of the manner in which the production unit interacts with the various environmental components constituting environmental aspects

1. Emission of gases and dust into the air

1.1. Organised emission

a) characteristics of emitters

No.	Marking	Emitter no. ...	Emitter no. ...

1	Geometric height [m]		
2	Outlet diameter [m]		
3	The total amount of waste gases under normal conditions [Nm ³ /s]		
4	Temperature of exhaust gases [K]		
5	Outlet velocity [m/s]		
6	Average emission time per year		

Emission limit values for emitters specified in an administrative decision

No.	Emitter no.	Source of formation /location of substance entry (e.g. boilers, furnaces)	Emitted substance	Emissions allowed under the current permit (in mg/m ³ or kg/h)
1.				
2.				

1.2. Fugitive emission

- a) Records on sources of fugitive emissions (leaks in apparatus and equipment, product storage processes, distribution of fuels under normal process conditions)

No.	Emission source (e.g. catcher, tank, gate valve, pump seal, etc.)	Type of pollution emitted
1.		
2.		

- b) Records on all air-conditioning and refrigeration devices in operation at the production unit (e.g. air-conditioners in the control room, administrative buildings, chillers, compressors, etc.)

No.	Type of device	Places/Location of device	Cooling agent	Amount of cooling agent in the device
1.				
2.				

1.3. Type and qualitative parameters of fuel used

1.4. Diagram of where substances are emitted into the air (pollutant emitters) – as Annex 2 to the manual

2. Water consumption and types of pollutants in discharged waste water

2.1. Water

Sources and estimated volume of water consumption for industrial and social/living purposes

2.2 Waste water

- a) types of waste water (sources of generation), how they are managed and how the volume of waste water discharged is estimated,
 - b) types of waste water discharge systems within the production unit,
 - c) quality requirements of waste water discharged by the production unit – in accordance with the standard applicable for a specific year
- 2.3** Diagram of the location of the waste water discharge into the sewerage systems – as Annex 3 to the manual – indicating: types of waste water entering the sewerage system, measuring and purification devices (e.g.: catch basins).
- 3.** Consumption of energy carriers and chemicals
- a) identification of the equipment and processes consuming the most energy and their energy efficiency
 - b) estimated intake of energy carriers and chemicals for industrial and other purposes
- 4.** Types of waste generated by the organisational unit, period and place of generation and how such waste is handled (include waste generated within the installation (covered by the administrative decision) and from beyond the installation (not included in the administrative decision))
- a) Hazardous waste

No.	Waste code and type (according to the applicable waste catalogue regulation)		Waste characteri stics	Period of origin (cycle)	Place of origin (e.g. column, device, tank)	Mode of handling, transfer to ¹⁾			
	Waste code	Type of waste				storage area - on the premis es of the	storage area for waste ²⁾	processing at own facilities ³⁾	the entitled economic operator ⁴⁾
1.									
2.									

¹⁾) insert an X in the appropriate
box

²⁾) onsite landfill for non-hazardous and inert waste with separate compartments for hazardous waste
ANWIL S.A.

³⁾) Installation for the recovery of hydrogen chloride from waste organochlorine compounds of
ANWIL S.A..

⁴⁾) operator with a proper waste management licence

b) Non-hazardous waste

No.	Waste code and type (according to the applicable waste catalogue regulation)		Waste characteri stics	Period of origin (cycle)	Place of origin (e.g. column, device, tank)	Mode of handling, transfer to ¹⁾			
	Waste code	Type of waste				storage area on the premises of the production unit	storage area for waste ²⁾	processing at own facilities ³⁾	the entitled economic operator ⁴⁾
1.									
2.									

¹⁾) insert an X in the appropriate box

²⁾) onsite landfill for non-hazardous and inert waste with separate compartments for hazardous waste
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5. Waste transport

Describe the manner in which the waste transporter is selected to ensure that the transport of waste is conducted only by a transporter authorised for this purpose.

6. Storage of waste

If there are storage areas within the production unit for waste generated in the installation and/or beyond it, such information should be included in this section of the manual.

If there are no storage areas within the production unit, this should be recorded.

6.1. Waste storage area characteristics

6.1.1. Description of the storage area

a) Location

Indicate where the storage area is located on the premises of the production unit (plot no.),

b) Method of securing the storage area

The protection method should be described:

- the surface occupied, including the parts of it that are separated,
- the type of surface on which the storage area is located (e.g. paved area, polycrrete surface, concrete slabs),
- method of sealing the surface against rainwater leakage into the ground,
- direction of rainwater run-off and type of sewerage system,
- method of marking the storage area,
- method of lighting the storage area,
- method of fire safety,
- method of protection against unauthorised access (fencing)

c) Plan for the location of waste storage areas

To be included as Annex 4 to this Manual.

d) Responsibility for the condition of the waste storage area

Include the position, name and contact telephone number of the person responsible for the condition of the waste storage area.

6.1.2. Method of operation of the waste storage area

a) The types of waste that are and may be stored at the designated storage area

Specify the types and codes of only such waste which is actually stored and can be stored at the designated storage area, according to the division between hazardous and non-hazardous, as shown in the tables below.

Hazardous waste

No.	Waste code and type (according to the applicable waste catalogue regulation)		Waste characteristics	Mode of handling, transfer to ¹⁾			METHOD OF STORAGE ³⁾
	Code	Type		the waste storage area ²⁾	processing at own facilities ⁵⁾	the entitled economic operator ⁴⁾	
1							
2							
3							

¹⁾ insert an X in the appropriate box

²⁾ onsite landfill for non-hazardous and inert waste with separate compartments for hazardous waste ANWIL S.A.

³⁾ e.g. sealed steel drums, sealed containers, bulk, etc.

⁴⁾ operator with a proper waste management licence

⁵⁾ Installation for the recovery of hydrogen chloride from waste organochlorine compounds of ANWIL S.A..

Non-hazardous waste

No.	Waste code and type (according to the applicable waste catalogue regulation)		Waste characteristics	Mode of handling, transfer to ¹⁾			METHOD OF STORAGE ³⁾
	Code	Type		the waste storage area ²⁾	processing at own facilities ⁵⁾	the entitled economic operator ⁴⁾	
1							
2							

No.	Waste code and type (according to the applicable waste catalogue regulation)		Waste characteristics	Mode of handling, transfer to ¹⁾			METHOD OF STORAGE ³⁾
	Code	Type		the waste storage area ²⁾	processing at own facilities ⁵⁾	the entitled economic operator ⁴⁾	
3							

1) insert an X in the appropriate box

²⁾) onsite landfill for non-hazardous and inert waste with separate compartments for hazardous waste ANWIL S.A.

³⁾)e.g. sealed steel drums, sealed containers, bulk, etc.

⁴⁾ operator with a proper waste management licence

⁵⁾ Installation for the recovery of hydrogen chloride from waste organochlorine compounds of ANWIL S.A.

a. **Rules for acceptance of waste at the storage area**

Specified the method of accepting and recording waste placed at the storage area.

b. **Rules for transferring stored waste from the storage area**

Rules for the transport and transfer of waste to authorised operators should be specified and the manner in which this should be confirmed.

A template for the waste record sheet is provided in Annex 5 to this manual.

The template for the waste transfer sheet is provided in Annex 6 to this manual.

c. **Recommendations to prevent contamination and mixing of waste**

d. **Emergency procedure**

The method of dealing with an emergency should be specified.

The information sheet on waste stored at the storage area constitutes Annex 7 to this manual.

TEMPLATE

Sheet creation date:

Information sheet on waste stored at the storage area

No.	Waste code and type (according to the applicable waste catalogue regulation)		Waste characteristics	Quantity [Mg]	Date of depositing waste at the storage area on the premises of the organisational unit	Mode of handling, transfer to ¹⁾			Date of the transfer to the waste storage area, ²⁾ to the authorised economic entity ³⁾ or processing
	Code	Type				waste storage area ^{2.}	processing at own facilities ^{4.}	authorised economic entity ³⁾	
1									
2									
3									

¹⁾ insert an X in the appropriate box

²⁾ onsite landfill for non-hazardous and inert waste with separate compartments for hazardous waste at ANWIL S.A.

³⁾ operator with a proper waste management licence

⁴⁾ Installation for the recovery of hydrogen chloride from waste organochlorine compounds of ANWIL S.A..

7. Noise emissions to the environment

No.	Name of noise source (equipment)	Characteristics of the noise source	Types of silencing and other noise protection devices used	Sound power level of the appliance dB
1.				
2.				

Diagram of the location of noise sources – as Annex 8 to the manual.

8. Ground and water environment.

8.1 Description of how to protect the soil and water environment against the ingress of contaminants within the tank fields and tanks belonging to the production unit (e.g.: double bottoms of tanks, leakage monitoring, etc.).

8.2 Assessment of the condition of the sewerage systems, reservoir fields and tanks belonging to the production unit – as Annex 9 to the manual.

8.3 Diagram of the location of piezometers on the premises subject to of the production unit – as Annex 10 to the manual.

9. Actions, including technical measures, to prevent or reduce environmental impact:

- a) substance emissions to air,
- b) quantity and quality of waste water discharged into sewers or waters,
- c) amount of waste generated,
- d) noise emissions.

10. Methods and means of monitoring, calculating and recording:

- a) quantity of emissions into the air, including emissions of greenhouse gases,
- b) quantities of waste discharged into the sewers or waters and quantities of water consumed,
- c) amount of waste generated,

Include the following clause in this subsection: *reaching an agreement with the unit responsible for Environmental Protection is required before the production of waste by the organisational unit (in terms of: type of waste, code and quantity) not submitted to the application for obtaining administrative decisions on waste production for ANWIL S.A.*

- d) noise emissions.

11. Ways in which the production unit affects the environment during the preparation and conduct of renovation and commissioning after renovation or process downtime.

11.1. Types of media discharged from the apparatus and equipment of the production unit.

11.2. The types of substances and energy (noise, vibration) emitted into the air water, soil or land and the ways in which they can be protected.

12. Anticipated effects of an emergency or abnormal operation of the installation (e.g. power failure) on respective environmental components (air, water, waste water, soil, etc.).

13. Reporting incidents which affect the environment.

Include the following clause in the manual: All planned operations and emergency events should be reported by e-mail to the Company Dispatcher.

14. Environmental aspects

Include the following clause in the manual: The identification of environmental aspects with their assessment is prepared in accordance with the procedure "Actions related to risks and opportunities. Planning and supervision of operational activities."

IV. List of attachments to this manual:

Annex 1 Location diagram of devices and apparatuses.

Annex 1a Location diagram and description of main and auxiliary and stand-by measurement devices, whose indications are used for the determination of substance emissions – as Annex 1a to the manual.

Annex 2 Diagram of the site for emitting substances into the air (pollutant emitters).

Annex 3 Diagram of the location of the waste water discharge into the sewerage systems, indicating: types of waste water discharged, measuring and pre-treatment devices (e.g. separators).

Annex 4 Plan for the location of waste storage areas

Annex 5 Template of the waste record sheet– available in electronic version at:
[\\anwilnt01\PREWENCJA\ OCHRONA Ś RODOW IS KA \Odpady\Prawo](#)

Annex 6 Template of the waste transfer sheet– available in electronic version at:
[\\anwilnt01\PREWENCJA\ OCHRONA Ś RODOW IS KA \Odpady\Prawo](#)

Annex 7 Information sheet on waste stored at the storage area

Annex 8 Diagram of locations of noise sources exceeding 85 dB

Annex 9 Assessment of the condition of the sewerage systems, reservoir fields and tanks belonging to the production unit

No.	Date of last inspection/renovation	Recommendation	Demonstrated leaks	Date of next inspection/renovation
1.				
2.				

Annex 10

Diagram of the location of piezometers on
the premises subject to of the production
unit/installation

3. TECHNICAL DATA

List of Process Fluids

Rev.:	Date:	prepared:	checked:	Remarks:														
Fluid		TB	Special MR Requirements				Insul.		Min./Max. oper.		Design		Pha-	Max.	WGK	PE	Insul-	Material
Fluid ID	Designation	UID	Pressure		Temperature		Temp.	pres-	temp.	pres-	temp.	se	Nominal	(1)	(2)	type		
		VT	min.	max.	min.	max.	oC	MPa g	oC	MPa g	oC		Size					
AIC	INSTRUMENT AIR	UID uido3095	0.000	1.000	0.00	60.00		0.730	40.00	0.800	50.00	G					RE55G	
AID	INSTRUMENT AIR CLEANED	UID uido3095	0.000	1.000	0.00	60.00		0.730	40.00	0.800	50.00	G					RE55G	

Interlocks

UNIT			
	I-lock	Description	P&ID
I	0202	Raw Brine Overheating Protection	
	IF	Temperature of Raw Brine (1TI001) is high high	02001
	OR	Flow of Raw Brine (1FIC002) is low	02001
	THEN	Steam valve 1TV001 will be closed (Controller 1TIC001 on "manual" and Y=0%)	02001
	RESET		
	IF	Temperature 1TI001 and Flow 1FIC002 are healthy	
	THEN	Steam valve 1TV001 can be operated	

Threshold Value List

Loop identific.	P&ID	Description	RC	Measuring range		Sign.	Process	Threshold value		Group/Priority/Others	Rev.	Date
	diagram			Lower	Upper							
1-A-001	02002	pH Sole	KQ	0	10	pH	L	SAL	4,5	pH		
1-A-005A	03001	NaOH Excess in Brine	KQ	0	1,5	g/l	HH		0,4	g/l		
	03001						H		0,2	g/l		
	03001						L		0,1	g/l		
1-A-005B	03001	Na2CO3 Excess in Brine	KQ	0	3,5	g/l	HH		0,8	g/l		
	03001						H		0,6	g/l		
	03001						L		0,1	g/l		