

**Information to communicate to the public
on the establishment covered by the prevention scheme for
major accidents involving hazardous substances**

BONDALTI CHEMICALS, S.A. - Estarreja

Why should you read this document?

This document contains information concerning each establishment covered by the prevention scheme for major accidents involving hazardous substances and for limiting their consequences for human health and for the environment, and also indicates where additional information can be obtained.

The occurrence of large-scale accidents (for example, fires, explosions, spillages) related to the release of hazardous substances present in establishments can endanger the workers of these establishments and the population in the surrounding area, as well as seriously affecting the environment.

Decree-Law no. 150/2015 of 5 August establishes the obligations to be met by the operators of these establishments in order to prevent the dangers and to limit the consequences of major accidents. This document therefore aims to fulfil the provisions in no. 1 of article 30 of that legal document.

Who is this information for?

The information contained herein is the responsibility of the establishment's operator. Part of the information – concerning the warning methods, the self-protection measures for people to take in the event of an accident and the External Emergency Plan – is drawn up in conjunction with the City Council, in particular with the Municipal Civil Defence Service.

A. General information

Identification of the establishment

Name / Trade name of the operator	BONDALTI CHEMICALS, S.A.
Name of the establishment	BONDALTI CHEMICALS, S.A.
Address of the establishment	Rua do Amoníaco Português no. 10
Parish	Beduído
Municipality	Estarreja

Context of the establishment in the major accident prevention scheme (Decree-Law no. 150/2015 of 5 August)

Establishment covered by the lower level	
Establishment covered by the higher level	x

Provisions contained in the prevention of major accidents scheme

Communication (article 14 of Decree-Law no. 150/2015 of 5 August)

Submission date of the notification / communication	31 January 2020
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Safety Report (article 17 of Decree-Law no. 150/2015 of 5 August)

Submission date of the safety report	27 April 2018
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Domino effect¹ (article 26 of Decree-Law no 150/2015 of 5 August)

Date on which the Portuguese Environment Agency communicates that the establishment is included in the domino effect group to which the establishments mentioned below belong.		Did not communicate	
Name of the establishment	Full address of the establishment	Mark the option applicable to each establishment	
		Lower level	Higher level

Possibility of occurrence of serious major accidents with transboundary effects

The establishment, located at **(Not applicable)** km from the border, is identified by the Portuguese Environment Agency as capable of affecting other countries, through the transboundary effects of a major accident, in the scope of the *Convention of the United Nations Economic Commission for Europe on the Transboundary Effects of Industrial Accidents*².

¹ Domino effect establishments – lower or higher level establishments or groups of establishments in which the probability or the consequences of a major accident are greater due to the geographical position and to the proximity of these establishments and their inventories of dangerous substances.

² Convention of the United Nations Economic Commission for Europe on the Transboundary Effects of Industrial Accidents – (TEIA Convention) – This Convention aims to prevent, prepare and react to industrial accidents capable of causing transboundary effects, including the reaction to the effects of these accidents caused by industrial establishments and the international cooperation relative to mutual assistance, research and development, information
Form: January 2016 version

Inspection (article 35 of Decree-Law no. 150/2015 of 5 August)

Date of the last IGAMAOT (Office of the Ministries of the Environment, Land Planning and Energy and of Farming and the Sea) inspection to check compliance with Decree-Law no. 150/2015	26 July 2017
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B. Description of the establishment and of the measures to prevent major accidents involving hazardous substances

Simple description of the activities undertaken in the establishment

BONDALTI CHEMICALS, S.A. is located at the Chemical Complex of Estarreja where it produces organic and non-organic chemical products. It is organised into two sectors: the Aniline and Derivatives production sector (PAD) and the Chlor-alkali production sector (PCA). The BONDALTI CHEMICALS, S.A. plant is an integrated chemical plant, or rather, it is a plant for the manufacture of substances on an industrial scale through the use of chemical conversion processes at which several units co-exist functionally connected to one another.

Chlor-Alkali Sector

This plant produces Chlorine, Caustic Soda and Hydrogen by means of electrolysis of an aqueous solution of Sodium Chlorate (brine).

It also produces Sodium Hypochlorite, by means of the absorption of gas streams containing Chlorine in a 20% Caustic Soda solution, and Hydrochloric Acid, from Hydrogen and damp Chlorine followed by absorption with demineralised water.

More recently the plant has been equipped with a new unit, which produces Chlorine and Hydrogen through electrolysis of a 20% solution of HCl.

Aniline and Derivatives Sector

Six products are manufactured by BONDALTI CHEMICALS/AD: Nitric Acid, Nitrobenzene, Aniline, Sulfanilic Acid, Cyclohexylamine and Cyclohexanol – produced in 4 different manufacturing units, in which the first three are also raw materials for manufacture.

Main CAE ³ (Economic Activity Code)	20144 – Manufacture of other basic organic chemical products, n.s.
Other CAE Codes	20130 – Manufacture of other basic non-organic chemical products, n.s.

exchange and technology exchange in the area of prevention and control of industrial accidents. More information at <http://www.apambiente.pt> > Instrumentos > Prevenção de Acidentes Graves > Convenção ETAI

³ Portuguese classification of Economic Activities, Revision 3, approved by Decree-law no. 381/2007 of 14 November, which constitutes the common framework for classifying economic activities to be adopted at national level.

Hazardous substances present in the establishment

Substances included in Part 1 of annex I of Decree-Law no. 150/2015 of 5 August	Hazard warnings
Section «H» - HEALTH HAZARDS	
H2 Acute Toxicity	H301: Toxic if swallowed H331: Toxic if inhaled
Section «P» - PHYSICAL HAZARDS	
P2 Inflammable Gases	H220: Extremely flammable gas
P5c Inflammable Liquids	H225: Highly flammable liquid and vapour H226: Flammable liquid and vapour
P8 Flammable liquids and solids	H272: May intensify fire; oxidiser
Section «E» - ENVIRONMENTAL HAZARDS	
E1 Hazardous for the aquatic environment	H400: Very toxic to aquatic life H410: Very toxic to aquatic life with long lasting effects
E2 Hazardous for the aquatic environment	H411: Toxic to aquatic life with long lasting effects
Section «O» - OTHER HAZARDS	
Substances included in Part 2 of annex I of Decree-Law no. 150/2015 of 5 August	Hazard warnings
Chlorine	H270: May cause or intensify fire; oxidiser H330: Fatal if inhaled H400: Very toxic to aquatic life
Hydrogen	H220: Extremely flammable gas
Ammonia	H221: Flammable gas H331: Toxic if inhaled H400: Very toxic to aquatic life H411: Toxic to aquatic life with long lasting effects

Main types of major accident scenarios that might occur at the establishment, possible consequences for the surroundings (people and environment) and existing control measures at the establishment

Accident scenario	Potential effects of the accidents	Existing measures to deal with the accident scenario
Fire	<p>Effects on human health, goods and environment if they are directly affected by the fire.</p> <p>Smoke clouds may be generated that can cause respiratory problems and ash dispersal.</p> <p>Overheating of adjacent areas may lead to the ignition of fuels in other places.</p>	<ul style="list-style-type: none"> • Preventive maintenance and regular inspections; • Supervision of the plant; • Connection of equipment to the grounding network; • Activation of the Internal Emergency Plan; • Automatic emergency shutdown system, ESD; • Water curtain sprinklers and other fire-fighting measures; • High availability of water supply to the fire-fighting network; • Control of retention basins; • Containment of liquid spillages creating barriers with absorbent material; • Use of foam on liquid surface.
Explosion	<p>May have serious consequences for human health, goods and environment surrounding the establishment.</p> <p>The effect of the shock wave may affect people directly or following damage to structures.</p> <p>Fires may start in other places affected by the explosion.</p>	<ul style="list-style-type: none"> • Preventive maintenance and regular inspections; • Supervision of the plant; • EX equipment; • Connection to the grounding network of the equipment; • Activation of the Internal Emergency Plan; • Automatic emergency shutdown system, ESD; • Equipment/plant shutdown and inertisation with nitrogen.
Projection of fragments	<p>Fragments of recipients or of structures close to the explosion may be projected at high speed, causing major harm to people and goods.</p>	<ul style="list-style-type: none"> • Preventive maintenance and regular inspections; • Supervision of the plant; • EX equipment; • Connection to the grounding network of the equipment; • Activation of the Internal Emergency Plan; • Automatic emergency shutdown system, ESD; • Equipment/plant shutdown and inertisation with nitrogen.

Accident scenario	Potential effects of the accidents	Existing measures to deal with the accident scenario
Release of substances in gas form which may be toxic for human health	The effects associated with the release into the atmosphere of toxic substances may cause reversible or irreversible damage to human health and even cause death, depending on the exposure time to the toxic cloud.	<ul style="list-style-type: none"> Preventive maintenance and regular inspections; Supervision of the plant; Activation of the Internal Emergency Plan; Automatic emergency shutdown system, ESD; Activation of sprinklers and water curtains; Control of retention basins (in the case of liquefied gases); Water curtains on the path of the gaseous cloud; Use of foam on liquid sheet.
Spillage of substances hazardous for the aquatic environment	Contamination/pollution of water resources (e.g. drinking water supply sources, rivers, estuaries, underground reserves, beaches and other zones on the maritime coast) in the establishment's surroundings.	<ul style="list-style-type: none"> Preventive maintenance and regular inspections; Supervision of the plant; Existence of retention basins in all the hazardous product tanks; Activation of the Internal Emergency Plan; Retention tanks in the effluent network; Application of containment measures and collection of contaminated soil.
Release of contaminated effluents resulting from fire-fighting	Contamination/pollution of water resources (e.g. drinking water supply sources, rivers, estuaries, underground reserves, beaches and other zones on the maritime coast) in the establishment's surroundings.	<ul style="list-style-type: none"> Retention tanks in the effluent network; Activation of the Internal Emergency Plan; Application of containment measures and collection of contaminated soil.
<i>Others</i>	----	----

Immediate action by the operator in the event of a major accident

Under the terms of article 28 of Decree-Law no. 150/2015 of 5 August, in the event of a major accident, the operator:

- Immediately activates the emergency mechanisms, namely the internal emergency plan or simplified internal emergency plan.
- Immediately informs the security forces and services necessary for immediate intervention, as well as the city council, of the occurrence.

Other measures

Warn neighbouring companies, provide environmental tracking team and a technician to assist the Municipal Civil Defence of Estarreja.

General information on the way the interested public shall be warned in the event of a major accident and adequate information on the self-protection measures to be adopted by the people in the establishment's surroundings

Consult the Estarreja External Emergency Plan.

Reference to the External Emergency Plan drawn up to deal with the effects outside the establishment resulting from an accident

https://www.cm-estarreja.pt/plano_de_emergencia_externo_de_estarreja

Estarreja, 31st January 2020

Where can further information be obtained?

→ About the establishment

Name of operator	BONDALTI CHEMICALS, S.A.
Address of establishment	Rua do Amoníaco Português no. 10, Beduído 3860-680 Estarreja
Telephone	234 800 300
Email	bondalti@bondalti.com
Website	www.bondalti.com

→ About the warning method and self-protection measures for people in the event of an accident and on the drawing up of the External Emergency Plan

City Council

Name	Câmara Municipal de Estarreja
Address	Praça Francisco Barbosa
Telephone	234 840 600
Email	geral@cm-estarreja.pt
Website	www.cm-estarreja.pt

→ About the implementation of Decree-Law no 150/2015 of 5 August

Agência Portuguesa do Ambiente | Departamento de Avaliação Ambiental

[geral \[at\] apambiente.pt](mailto:geral@apambiente.pt)

Rua da Murgueira, 9/9A – Zambujal Ap. 7585 | 2610-124 Amadora

Telephone 21 472 82 00 | Fax 21 471 90 74

On the website of the Portuguese Environment Agency:

www.apambiente.pt > Instrumentos > Prevenção de Acidentes Graves

National Civil Defence Authority

[geral \[at\] prociv.pt](mailto:geral@prociv.pt)

Av. do Forte em Carnaxide | 2794 – 112 Carnaxide

Telephone 21 4247100 | Fax 21 4247180

→ About the inspection of the establishment in the scope of article 35 of Decree-Law no 150/2015 of 5 August

Office of the Ministers of the Environment, Land Planning and Energy and of Farming and of the Sea

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