



ENVIRONMENTAL IMPACTS OF NITROUS OXIDE PLANTS

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EUROPEAN INDUSTRIAL GASES ASSOCIATION AISBL



AVENUE DES ARTS 3-5 • B – 1210 BRUSSELS
Tel: +32 2 217 70 98 • Fax: +32 2 219 85 14
E-mail: info@eiga.eu • Internet: www.eiga.eu

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Prepared by WG-5 Environment

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Avenue des Arts 3-5 B 1210 Brussels Tel +32 2 217 70 98 Fax +32 2 219 85 14
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Amendments to 112/13

Section	Change
	Editorial to align style with IHC associations
	Minor updates for terminology and references
4.5	Added monitoring of acid strength

NOTE Technical changes from the previous edition are underlined

1 Introduction

This publication details the environmental impacts of the management of nitrous oxide plants and provides guidelines on how to reduce those impacts.

2 Scope and purpose

2.1 Scope

The publication concentrates on the environmental impacts of nitrous oxide plants. This publication does not give specific advice on health and safety issues, which shall be taken into account before undertaking any activity. On these issues relevant EIGA documents (in particular EIGA Doc 175, *Safe Practices for the Production of Nitrous Oxide from Ammonium Nitrate*, and EIGA Doc 176, *Safe Practices for Storage and Handling of Nitrous Oxide*), and / or national legislation should be consulted for advice [1, 2].¹

2.2 Purpose

This publication is intended to serve as a guide for nitrous oxide plant operations to assist in putting in place a formal environmental management system that can be certified by an accredited 3rd party verifier. It aims to provide a guide for operating managers to identify and reduce the environmental impacts of these operations. It also provides the basis for establishing the Best Available Techniques for the purposes of the Industrial Emissions Directive (IED) 2010/75/EU *on industrial emissions (integrated pollution prevention and control)* [3]. The IED covers nitrous oxide production in Annex I, section 4.2 a), Manufacture of basic inorganic chemicals.

3 Definitions

For the purpose of this publication, the following definitions apply.

3.1 Publication terminology

3.1.1 Shall

Indicates that the procedure is mandatory. It is used wherever the criterion for conformance to specific recommendations allows no deviation.

3.1.2 Should

Indicates that a procedure is recommended.

3.1.3 May

Indicates that the procedure is optional.

3.1.4 Will

Is used only to indicate the future, not a degree of requirement.

3.1.5 Can

Indicates a possibility or ability.

¹ References are shown by bracketed numbers and are listed in order of appearance in the reference section.