



SAFETY AUDIT / ASSESSMENT TOOL ACETYLENE PLANT AND CYLINDER FILLING

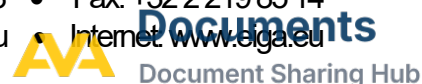
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EUROPEAN INDUSTRIAL GASES ASSOCIATION AISBL



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-16 Worker Safety and WG-12 Acetylene

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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



Table of Contents

1	Introduction	1
2	Scope and purpose	1
2.1	Scope.....	1
2.2	Purpose	1
3	Formats for Audit Checklists	2
3.1	Format for Audit / Assessment Tool Questions	2
3.2	Typical Format for collection of evidence and development of findings	2
3.3	Typical format for management of actions arising from the audit	3
4	Acetylene Plant and Cylinder Filling – Question Set	4

Amendments to Doc 102/08

All	Revision of Doc.102/03 Appendix C5
All	New format of Safety Audit / Assessment Tool
January 2024	Question 7.1 and 8.34: old references have been updated

1 Introduction

Auditing is a proactive management tool for use by an organisation or activity as a part of its management responsibilities. It is used to proactively confirm compliance, detect potential issues and facilitate future improvement

EIGA Doc. 102 *Audit Guidelines* provides an overview of audit and self-assessment processes, identifies different types of audits and lists the key points for ensuring success.

Sections 8.2 and 8.4 of Doc. 102 refers to EIGA's audit tools document series that can be used in verification of findings and evidence collection and in action plans and follow up to audits.

This publication is part of that series.

2 Scope and purpose

2.1 Scope

This publication provides a checklist focusing on a specific area of safety, health and environment, management systems and technical practices within the industrial and medical gas industry.

This checklist does not incorporate all the requirements of local or national legislation. These should be taken into consideration when planning any audit or developing audit checklists.

The tool or combination of tools used can depend upon the type of audit and the organisation, location or site characteristics.

2.2 Purpose

Each Safety Audit / Assessment tool contains a list of questions that may be used by the auditor in the format shown in 3.1. Each question has a sequential reference number, the question itself and where relevant a reference to the EIGA publication or external publication that provides guidance on that specific topic.

These question sets may then be use at different stages of the audit process, by combining them with additional information columns in a manual or automated audit system, depending on company systems.

Section 3.2 shows the format of how the question set may be used for collection of evidence and development of findings.

Section 3.3 shows the format of how the question set may be used for management of actions arising from the audit.

Forms may be adapted or combined depending on audit and action monitoring systems used by a company.

The Auditor should not ask the questions on this list in isolation but should read them in conjunction with EIGA Doc 102 and the referenced technical document.

3 Formats for Audit Checklists

3.1 Format for Audit / Assessment Tool Questions

Question reference	Question	Document Section Reference
<i>Use sequential numbering system within each section. E.g. 1.2, 1.3. Try to avoid multiple clustered questions under the same number, but describe them as separate questions.</i>		<i>In EIGA reference document or external reference document</i>

3.2 Typical Format for collection of evidence and development of findings

Question reference	Question	Document Section Reference	Yes No N/A	Description of Evidence / Comments (Ref...)	Findings (Ref...)	Recommendations for improvement (Ref Doc xxx 8.2.6)	Action Required Yes/No
<i>Use sequential numbering system within each section. E.g. 1.2, 1.3. Try to avoid multiple clustered questions under the same number, but word them as separate questions.</i>		<i>In EIGA reference document or external reference document</i>	<i>Answer is yes or no or question is not applicable</i>				

3.3 Typical format for management of actions arising from the audit

Question reference	Findings	Action(s)	By Whom	Dates	
				Target	Complete
<i>Use sequential numbering system within each section. E.g. 1.2, 1.3. Try to avoid multiple clustered questions under the same number, but word them as separate questions.</i>					

4 Acetylene Plant and Cylinder Filling – Question Set

- 1 General precautions
- 2 Storage and handling of carbide
- 3 Acetylene generator
- 4 Acetylene drying and purification
- 5 Acetylene compressors
- 6 HP driers
- 7 Flame arrestors
- 8 Filling racks/charging
- 9 Acetone equipment
- 10 DMF equipment
- 11 Maintenance
- 12 Emergency procedures
- 13 Acetylene cylinder construction, internal inspection, maintenance and disposal

Note This questionnaire is not exhaustive and may need to be complemented/adapted in order to cover all the procedures, plant and equipment on site.

	Question	Yes	No	N/A	Comment	Agreed Action	By Whom	Dates	
								Target	Compl
1.0	General Precautions								
1.1	Is the standard of housekeeping adequate								
1.2	Is a purging procedure issued for all major equipment								
1.3	Are all parts of rotating machinery/ equipment, shafts etc, properly guarded								
1.4	Can the plant be operated with the alarm 'main switch' in the 'OFF' position								
1.5	Is the acetylene system protected against the effect of freezing conditions								
1.6.1	Are personnel provided with the necessary protective clothing and equipment for the full range of plant								
1.6.2	Is this clothing/equipment used								
1.7	Are metal/anti-static plastic buckets used under drain valves for operation and maintenance purposes								
1.8	Are components, valves, pipework, flexible hoses etc correctly specified at the time of replacement								

	Question	Yes	No	N/A	Comment	Agreed Action	By Whom	Dates	
								Target	Compl
1.9.1	Are personnel who work on acetylene systems adequately trained and aware of the hazards associated with acetylene and this type of plant								
1.9.2	Are personnel aware of the dangers of using certain materials and metals for equipment in contact with acetylene								
1.10	Are all metal constructions/ equipment adequately earthed								
1.11	Are all floors, walls, beams, roof trusses, window ledges etc kept free from carbide dust								
1.12	Is a safe method of disposing of carbide dust in use								
1.13	Are safety signs prominently displayed around the acetylene factory, eg 'No smoking', 'Unauthorised Personnel Prohibited'.								
1.14	Are ventilation openings at high and low level kept free from obstruction								
1.15	Are all vent pipes (from relief valves etc) discharging outside the building, kept free from obstructions								

	Question	Yes	No	N/A	Comment	Agreed Action	By Whom	Dates	
								Target	Compl
1.16.1	Do all fork lift trucks meet the requirements of company/ national legislation								
1.16.2	Are they regularly inspected/ maintained								
2.0	Storage & Handling of Carbide								
2.1	Are carbide drums/containers inspected after receipt on site								
2.2	Are operators trained to deal with damaged or hot drums/ containers								
2.3	Are other materials stored in this area								
2.4	Is a notice posted warning one not to extinguish a carbide fire with water								
2.5	Are the emergency exits properly identified and kept free from obstruction								
2.6	Is it possible to have an ingress of water into the carbide store								
2.7	Are all construction materials and storage areas kept in accordance with legal requirements, eg floor, roof, walls, doors, windows, platform, ventilation, lifting devices								
2.8	Is the store adequately ventilated								