



SAFETY TRAINING OF EMPLOYEES

Doc 23/26

Revision of Doc 23/18

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Table of Contents

1	Introduction	1
2	Scope and purpose	1
2.1	Scope	1
2.2	Purpose	1
3	Definitions	1
3.1	Publications terminology	1
3.2	Technical definitions	2
4	Employee Training requirements	2
4.1	Training Methods	3
4.2	Training of new employees	3
4.3	Training when role is changed	4
4.4	Periodic Refresher Training	4
4.5	Revised or updated training (workplace change)	4
4.6	Pro-active Ad-hoc training	5
5	Training Plan	5
5.1	Training plans generic	5
5.2	Training plans - individual	5
6	Training matrix	5
7	Execution of safety training	6
8	Competence assessment	6
9	Competence of trainers	6
10	Responsibilities of managers	6
11	References	6
12	Further reading / additional information sources	7
Appendix 1 – Training matrix		8
Appendix 2 – Index of EIGA Safety Training Leaflets		24

Amendments to 23/18

Section	Change
All	Full revision

1 Introduction

In the gases industry, accidents can and unfortunately do occur at all stages of manufacturing and handling such as production, cylinder filling and handling, maintenance and distribution.

Accidents also occur during the transportation of gases or while performing activities at customer sites, such as installation of equipment and maintenance of installed equipment.

Health and safety training helps people acquire the skills, knowledge and attitudes to become competent in those aspects of their routine and non-routine work. Companies should include learnings from accidents and near misses into training material to help prevent re-occurrence. Competence of staff is a key part of safe operation, and it contributes to an engaged work team and effective safety culture.

EU Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work [1]¹ stipulates in its Article 12 that “The employer shall ensure that each worker receives adequate Safety & Health training”.

While regulations offer general guidelines, they do not provide specific guidelines as to the content of training for every industry. This publication shares the experience of the European industrial and medical gases member companies, in training their employees, particularly in the hazards unique to our industry.

All EIGA member companies shall have a system to manage training and competence. See EIGA Info HF 02 *Individual - Training and Competence* [3].

2 Scope and purpose

2.1 Scope

This publication covers the key subject areas related to the employer’s obligations for safety training of employees working for EIGA Member companies.

In principle much of the training content identified is also relevant to contract workers, but the delivery of training for contractors is the responsibility of their employer. There is also responsibility to educate contractors about site hazards which could be unique to the industrial or medical gases industry. This contractor “site induction” training is outside the scope of this document.

Lifetime learning, career development, leadership skills, training and development of managers and supervisors is excluded from the scope of this document.

2.2 Purpose

This publication provides guidelines from which companies could develop their own competence management systems for safety training of employees. It is supplemented by a series of training leaflets from DOC 23.1 to DOC 23.23, which each outline the minimum recommended scope for identified safety topics.

3 Definitions

3.1 Publications 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.

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

3.1.2 Should

Indicates that a procedure is recommended.

3.1.3 May and need not

Indicate 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.

3.2 Technical definitions

For the purposes of this publication, the following definitions apply:

3.2.1 Safety training

Process of providing people with work-related knowledge and skills in safety and occupational health topics. The process shall include assessment of competence.

3.2.2 Competence

The ability to undertake responsibilities and to perform activities to a documented company standard. Competence is a combination of practical and thinking skills, experience, knowledge and attitude.

3.2.3 Competence Management System (CMS)

A structured approach to identify, assess, develop, and manage the required skills, knowledge, and abilities of employees to perform their tasks safely.

4 Employee Training requirements

For most companies there may also be a short list of “minimum mandatory” safety training subjects that are applicable for all employees. For persons working in low hazard roles this “minimum mandatory” list of safety training topics may be suitable and sufficient. Examples might include basic awareness about; accident reporting, employees’ legal obligations for health and safety, actions to be taken in event of emergency, electrical safety.

The safety training requirements for each job role should be identified from an assessment of the hazards associated with workplace, the substances, equipment present and the work activities.

Different job roles may require different levels of training depending on the expertise required, for example work permit receivers and work permit issuers.

The CMS should address:

- Training of new employees
- Periodic refresher training.
- Training of existing employees when their role changes.
- Pro-active or reactive ad-hoc training, for example focus topics on seasonal safety, compliance issues or safety stand-down after an incident.

And may also include safety relevant aspects of ongoing career development or lifetime learning skills.

Training content and requirements should be kept updated to reflect; review/revision of task or workplace risk assessments, new lessons from incidents and accidents plus information from changing legal obligations.

4.1 Training Methods

Ensure that the training delivery methods used, such as face-to-face classroom training, e-learning, online courses or virtual training, are appropriate for the topic being taught and effective.

As training delivery technology evolves, consider updating your delivery methods. For example, you could use interactive micro-learning on smart devices, vehicle/driver simulation devices, or virtual or augmented reality for teaching and remote competence assessment.

4.2 Training of new employees

Accident statistics show that newly hired and inexperienced people are more prone to incidents than others. Incomplete understanding of hazards increases the likelihood of unsafe acts and injury.

A newly appointed person should learn about the hazards of the substances, equipment and tools involved in their future role.

The arrival of any new employee is a unique opportunity to immediately introduce safe behaviours and the company safety culture.

Management shall ensure that key safety topics and legal obligations are addressed within the first few days (called “immediate safety training” in this document). In addition the onboarding programme may provide the opportunity to introduce new employees to colleagues, supervisors, and the workplace.

See also EIGA Info TS 03 *Training: induction and refresher training of drivers, management and other transport function personnel* [2]

4.2.1 Immediate safety training

Some **safety training** subjects should be delivered immediately to all new employees, independent of their role. In some countries these topics and their delivery timings are legally mandated. Examples of such “immediate safety training” include:

- site induction including the action to be taken in event of emergencies
- Awareness of employee obligations under national safety law including incident and accident reporting
- basic safety information, (Concepts of hazard and risk and electrical safety)

Some additional **safety training** subjects should be given immediately to all employees who may be exposed to general hazards on operating sites, before they are allowed to walk around unaccompanied and are potentially exposed to risks. For example:

- Personal protective equipment requirements
- Areas of oxygen enrichment or depletion
- Forklift Truck hazards

4.2.2 Induction training programme

For induction training, Doc 23.01 *Safety Training Checklist* should be used by the employee’s manager to serve as, training record, and a feedback document for initial induction safety training.

This *Safety Training Checklist* for new employees is not safety training. The Safety Training Leaflet is divided into sections but neither these sections nor the sequence of the items in a section implies any priority.

It can be beneficial to provide safety training for groups of new employees together, to encourage networking and build confidence.

Before an employee starts to undertake any kind of activities related to their job **full safety training** shall cover all relevant topics related to the activities performed. It can be delivered in a classroom, at the workplace or in other formats appropriate for the audience.

4.2.3 Competence Assessment

Any training provided must be accompanied by a competence assessment to prove that the training content has been understood and can be translated into safe behavior and task execution.

This can be carried out in various ways, such as a written test, a discussion, workplace observations, or the outcome of project work.

The result of any competence assessment shall be documented.

If employee competence of a topic is judged to be unsatisfactory – either from written test results or of behavioural observations - retraining must be undertaken.

Documented job-observations in the process of competence assessment are mandatory (for managers) to ensure that the gained knowledge is also applied in practice.

Passing a competence assessment (written test, interview,..) on a specific training content, proves up to date knowledge and therefore can make a refresher training obsolete.

4.3 Training when role is changed

A change of role may lead to new risks in the new work activities. A training plan is required to cover any new risks that change.

4.4 Periodic Refresher Training

The frequency of refresher training should be defined using a risk-based approach.

Refresher training shall be given to employees as follows:

- At the frequencies and with the content required by the legal framework or CMS.
- When regulations have changed
- When an employee returns to work after a long period of absence (for example illness)
- At an earlier frequency
 - if lack of understanding of the topic is demonstrated by an individual.
 - when the employee was involved in an incident or near miss, and a lack of knowledge and/or awareness was indicated.

Reduced content could be used for refresher training, especially if it is delivered on an annual basis.

In any case, is possible that there are training topics where a “one-off” training is sufficient.

Refresher training may be...

- not required if the initial training was a lifetime qualification.
- a simple repeat of the entire training package;
- a shorter refresher course covering the original training content; or
- a re-assessment, which if passed is adequate.

4.5 Revised or updated training (workplace change)

If significant change occurs in the operation or work environment, e.g. from lessons learnt from incidents, then training material may need to be amended and people should be re-trained in the aspects that have changed. The requirement for such an update may come from an incident investigation or for changes in the work environment is ideally identified in a risk assessment as a part of a Management of Change (MOC) process.

4.6 Pro-active Ad-hoc training

Pro-active training campaigns may also be delivered on company selected safety topics, usually as an injury prevention measure. Examples might include awareness of heat exhaustion or seasonal weather hazards.

5 Training Plan

5.1 Training plans generic

Companies should define typical or default training plans for departments, areas and roles.

Training plans shall be regularly reviewed and adapted as necessary.

5.2 Training plans - individual

Each manager shall ensure that an individual training plan additional to the generic one is compiled for all employees working in their area of responsibility that identifies the necessary training requirements based on the workplace risk assessment for the job-function as well as any individual requirements not yet listed in the default training plan.

Example of useful information sources for compiling training materials:

- Safety Training Matrix. See Appendix 1.
- EIGA Documents available on the EIGA website <https://www.eiga.eu/publications>.
- Safety Training Leaflets for new employees for Induction Safety Training appropriate to the employee's job. See Appendix 2.
- Training Packages (internal and external (e.g. EIGA) presentations or videos etc. which address specific topics relevant to the gas industry).
- Technical equipment manufacturers' guidance such as instruction booklets and manuals.
- Operating Instructions.
- Safety Data Sheets (SDS).
- Other materials (books, magazines, brochures, webpages of health and safety organizations etc.).

A good and effective training program should fulfil the following requirements:

- Combinations of different training methods and materials is used.
- The complexity, the amount of content and the duration of trainings is appropriate to the role of the trainees.
- The type of competence assessment is defined for each training module.
- Each employee is linked to the relevant training content - usually via the role an employee has.
- Documentation of training is recorded in each employee's training record.
- Trainer's competence requirements are defined.

6 Training matrix

Appendix 1 of this publication provides an example of a training matrix. This matrix first lists the immediate training topics in the topmost lines, followed by a list of training topics arranged in alphabetical order relevant to activities typically carried out in the industrial and medical gases industry. The horizontal axis lists typical job roles within the industry. The matrix indicates whether specific training would be recommended for a given job role. Mind that these roles will definitely perform additional tasks that require training, for example lone working, first aid and travel activities, which are not included in the matrix.

7 Execution of safety training

Trainings can be effectively delivered in many ways. Ranging from face-to-face personal or classroom trainings, to practical exercise, remote online trainings and self-study of training material.

Where applicable training material should be supplemented by practical exercises or on-the-job-training exercises.

8 Competence assessment

After every training a competence assessment should be done to prove, that the training content has been understood and can be translated into safe behaviour and task execution. An important aspect of a safety training is the competence assessment after the content has been “given” to the trainee. This can be done by a test (written or verbal) and/or by behavioural observation on people performing the relevant tasks.

If employee understanding of a topic is judged to be unsatisfactory – either from test results of behavioural observations - then retraining must be undertaken.

The understanding of the trainee shall be checked after their safety training has been completed. Comprehension tests or and job-observation shall be performed and documented.

Comprehension tests can be done in written or verbally (also needs documentation). Documented job-observations in the process of competence assessment are mandatory (for managers) to ensure that the gained knowledge is also applied in practice.

9 Competence of trainers

The effectiveness of face-to-face training is directly impacted by the teaching and coaching skills of the trainer.

For some safety critical management systems such as lockout tagout, work permit and confined space, companies may define a restricted list of technically competent trainers.

In some countries persons delivering safety training must be externally certified and authorised.

10 Responsibilities of managers

Managers are always accountable to ensure that each employee is competent before any task is performed.

In some countries, the manager is directly responsible to deliver safety training and job-specific training. Human Resources (HR) department usually is responsible for the induction training programme. For safety training requirements EHS professionals must advice on training requirements and should own the training content.

It is important that roles and responsibilities of line managers, individual employees, HR and EHS are clearly documented within the CMS.

11 References

Unless otherwise stated the latest edition shall apply.

- [1] Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work. European Union OJ L 183, 29.6.1989, p.1.
- [2] EIGA Safety Info TS 03 *Training: Induction and Refresher Training of Drivers, Management and Other Transport Function Personnel*, www.eiga.eu
- [3] EIGA Safety Info HF 02 *Individual: Training and Competence*, www.eiga.eu

12 Further reading / additional information sources

EIGA Doc 118 *Safe Management of Contractors*, www.eiga.eu

Appendix 1 – Training matrix

Training Topics (depending on the specific position)	Notes	ASU Operators	Cylinder Operators	Speciality Gases Filling Operators	Acetylene Operators	LPG / LNG Operators	HyCo Operators	N2O Production Operators	ASU plant Maintenance	Cylinder Plant Maintenance	C02 plant Ops and Maintenance	Acetylene plant Maintenance	Transport - Bulk	Transport Cylinders	Cylinder Handling	Cylinder Testing + painting	Customer Engineering Tech	Plant Construction	Customer Installations	Homecare Personnel	office	Sales Force	Long term site service (external)
Accident Reporting (immediate)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Site Induction (immediate)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Life Saving Rules Overview																							
Workplace/task Risk Assessment for assessors																							
Workplace Risk Assessment awareness (including Concepts of hazard and risk)	2)																						
Job specific training (operating procedures and task risk assessment)																							
PPE requirements and use		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Accident Investigation basics																							
Acetylene Operations				C	R							R											
ASU Operations		R							C														
Behaviour Safety incl. Dynamic Risk Assessment		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Confined Space awareness		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	C	

Training Topics (depending on the specific position)	Notes	ASU Operators	Cylinder Operators	Speciality Gases Filling Operators	Acetylene Operators	LPG / LNG Operators	HyCo Operators	N2O Production Operators	ASU plant Maintenance	Cylinder Plant Maintenance	C02 plant Ops and Maintenance	Acetylene plant Maintenance	Transport - Bulk	Transport Cylinders	Cylinder Handling	Cylinder Testing + painting	Customer Engineering Tech	Plant Construction	Customer Installations	Homecare Personnel	office	Sales Force	Long term site service (external)
Confined Space Entry		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	C	
Construction Safety Overview									C	C	C	C					R	R	R				
Contractor Management		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			C
Control of Legionella		R	C		C				R	C		C				R			C		C		R
Crane Operations		R			C				R		C	R					R	R	C				
Crisis Management, Employee Awareness		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Critical safety systems – alarm & tripping devices		R	R	R	R	R	R	R	R	R	R	R	R	R		R			C				
Cryogenic Bulk Storage		R	R	R	C	R	R	R	R	R	R	C	R				C		C	R			
Cryogenic Liquid Containers		R	R	R	R	R	R	R	R	R	R	R	R	R	R				C	C			
Cylinders Acetylene			R	R	R				R	R	R	R		R	R	R	R	R	R				
Cylinders for compressed gases.		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			
Cylinder Filling			R	R		R	C	C		R	R									R			
Cylinder Loading and Transportation			R	C		C	C	C						R	C	R				C			
Cylinders and their Handling and Storage		R	R	R	R	C	C	C	R	R	R	R		R	R	R	R	R	C	C			
Defensive Driving													R	R				C	C	C	R	R	
Display screen equipment /office ergonomics																							
Driving Risks Distraction + Fatigue													R	R				C	C	C	R	R	
Dewar Handling			R							R				R						C			

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EH&S Management System		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Electrical Safety - Basic Electricity (immediate)		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R		R
Electricity High Voltage		C							R	C		C						C	C				
Emergency Preparedness (immediate)		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Work Permit incl. Energy Isolation, Lockout/Tagout (LOTO) awareness		R	R	R	R	R	R	R	R	R	C	R	C	C	R	R	R	R	R	R	C		C
Work Permit incl. Energy Isolation, Lockout/Tagout (LOTO)		R	R	R	R	R	R	R	R	R	C	R	C	C	R	R	R	R	R	R	C		C
Environmental + Waste Awareness		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Fall Protection		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	R	R	R			
Dropped objects hazards		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	R	R	R			
Fire Fighting + Protection		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
First Aid		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Forklift Driving		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C				
Forklift Safety Awareness		C	R	C	R	C	C	C	C	R	C	R		R	R	C		C	C	R		C	
Gases - Acetylene		C	R	R	R	C	C		R	R	C	R	C	R	R	R	R	R	R		C	C	
Gases - Argon		R	R	R	R	C	C		R	R	R	R	R	R	R	R	R	R	R		C	C	
Gases - Carbon dioxide		R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	R		C	C	R
Gases - Helium		R	R	R		C	R		R	R	C	C	R	R	R	R	R	R	R		C	R	R

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Gases - Hydrogen		R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	R		C	R	C
Gases - Nitrogen		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		C	R	C
Gases - Oxygen		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	C	R	C
Gases - LPG/LNG			R	R		R	C			R			C	R	R	R	R	R	R			R	C
Gases - toxic/corrosive		R	R	R	R	R	R	C	R	R	R	R	R	R	R	R	C	C	R			R	
Hand Arm Vibration Awareness		C	C	C	C	C	C	C	R	R	C	R				R		R	R				
Hand Safety		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R
Hearing Protection + Noise Risk Awareness		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	C	C	C	R
Heat Related Illness Prevention		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			C	R
HyCO Operations							R																
Ladder Safety		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Liquid Tanker Loading/Unloading		R				R	R	R					R										
Lone worker		C	C	C	C	C	C	C	C	C	C	C	R	R	C	C	C	C	C	C		C	C
LPG/LNG Operations						R																	
Management of Change		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
Manual Handling + Ergonomics			R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	C			R
Office Ergonomics + office risks		C	C	C	C	C	C		C	C	C	C						C	C	R	R	R	C
Oxygen Compatibility		R	R	R	R				R	R			R	R		R	R	R	R	C			

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Portable Atmosphere Monitors		R	R	R	R	R	R	C	R	R	R	R	C	C	R	R	R	R	R			C	
Hand Tools		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			C	R
Pressure Hazards		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R				
Process Safety Management		R	R	R	R	R	R	R	R	R	R	R					R						
Properties /Classification of hazardous substances		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	C	C	
Respirators Programme		C	C	C	C	C	C	R	C	C	C	C			C	C	C	C	C	C			
Safety Data Sheets			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Scaffold Safety		C							R									R					
Special Gases Operations			C	R																			
Slips, Trips & Falls (immendiate)		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	C	R	R	R
Site Security Awareness		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R				R	
Storage, Hazardous Substances		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				C
Storage, Underground Tanks (Awareness)		C	C	C	C	C	C		C	C	C	C			C	C	C	C	C				
Power Tool Safety		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				
Site Traffic Risks & Controls		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R		
Transport of Dangerous Goods		C	C	C	C	C	C	C					R	R		C	C	C	R	R	C		
Travel Risks		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	R	C	R	C
Vehicle Rollover Training													R	R						C			

Training Topics (depending on the specific position)	Notes	ASU Operators	Cylinder Operators	Speciality Gases Filling Operators	Acetylene Operators	LPG / LNG Operators	HyCo Operators	N2O Production Operators	ASU plant Maintenance	Cylinder Plant Maintenance	C02 plant Ops and Maintenance	Acetylene plant Maintenance	Transport - Bulk	Transport Cylinders	Cylinder Handling	Cylinder Testing + painting	Customer Engineering Tech	Plant Construction	Customer Installations	Homecare Personnel	office	Sales Force	Long term site service (external)
Welding Safety		C	C		C			C	R	R	C	R					R	R	R			C	
Whole Body Vibration Awareness		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	R			
Working at Heights		C	C	C	C	C	C		C	C	C	C			C	C	R	R	C	C			
Workplace Risk Assessment		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Accident Reporting and Investigation Basics	Doc.90 Incident/Accident Investigation and Analysis Info HF 03 Organisation - "Human Factors in Incident Investigation" Info TS 06 Vehicle Incident Investigation Management	
Acetylene Operations	Doc. 26 Permissible Charge / Filling Conditions for Acetylene Cylinders, Bundles, Battery Vehicles Doc. 123 Code of Practice - Acetylene	Safety Training Leaflet 8: Acetylene, Calcium Carbide, Lime Sludge and Purifying Materials – Safety Training Leaflet 10: Acetylene Cylinders
ASU Operations	Doc. 65 Safe Operation of Reboilers/Condensers in Air Separation Units Doc. 147 Safe Practices Guide for Cryogenic Air Separation Plants	
Behaviour Safety incl. Dynamic Risk Assessment	Doc. 201 Near-Consumer Use – Risk Assessment Methodology Doc. 51 Management of Change	
Chemicals	-	Safety Training Leaflet 21: Chemicals
Confined Space	-	
Construction Safety Overview	NL 78 Asphyxiation fatalities on a construction site / Asphyxiation near-miss accident in open air / etc	
Contractor Management	Doc. 118 Safe Management of Contractors Info TS 04 Transport of Gases - Contractor Management Doc. 40 Work Permit Systems	
Control of Legionella	ENL 04 Legionella	
Crane Operations	Info 25 Crane Transport of Cylinder Packages	

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Crisis Management, Employee Awareness	Doc. 923 Guidelines for Crisis Management	
Critical safety systems – alarm & tripping devices	NL 69 Pallets / Safety critical instruments Info HF 08 Task - "Alarm Handling"	Safety Training Leaflet 14: Critical Safety Systems - Alarm & Tripping Devices
Cryogenic Bulk Storage	Doc. 24 Vacuum insulated cryogenic storage tank systems pressure protection devices Doc. 114 Operation of static cryogenic vessels Doc. 115 Storage of Cryogenic Air Gases at Users' Premises Doc. 119 Periodic inspection of static cryogenic vessels Doc. 133 Cryogenic Vaporisation Systems - Prevention of Brittle Fracture of Equipment and Piping TB 11 Recommendations for the Prevention of Brittle Failure of the Outer Jacket of Vacuum Insulated Cryogenic Storage Tanks	Safety Training Leaflet 12: Cryogenic Liquids, Spills and Vapour Clouds
Cryogenic Liquid Containers	Doc. 93 Safety features of portable cryogenic liquid containers for industrial and medical gases Doc. 151 Prevention of Excessive Pressure during Filling of Cryogenic Vessels Doc. 168 Calculation Method for Analysis and Prevention of Overpressure during Refilling of Cryogenic Tanks with Rupture Disks	Safety Training Leaflet 12: Cryogenic Liquids, Spills and Vapour Clouds
Cylinders Acetylene	Doc. 26 Permissible Charge / Filling Conditions for Acetylene Cylinders, Bundles, Battery Vehicles SL 04 The Safe Transport, Use and Storage of Acetylene Cylinders	Safety Training Leaflet 10: Acetylene Cylinders

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Cylinders for compressed gases.	<p>Doc. 36 Catalogue of Control Marks on Cylinders</p> <p>Doc. 57 Recommendations for Avoidance of Sustained Load Cracking of Aluminium Alloy Cylinders</p> <p>Doc. 61 Safe Use of Gas Cylinders in Marine Service</p> <p>Doc. 62 Methods to Avoid and Detect Internal Gas Cylinder Corrosion</p> <p>Doc. 86 Gas Cylinders and Valves with Restricted Use in the EU</p> <p>Info 02 Handling of Gas Cylinders during and after Exposure to Heat or Fire</p> <p>Doc. 124 300 Bar High Strength Seamless Steel Gas Cylinders</p> <p>Doc. 161 Gas compatibility with Aluminium alloy cylinders</p> <p>Doc. 177 Medical Gas Cylinders Colour Coding</p> <p>Doc. 182 Pre-fill Inspection of Customer Owned Cylinders</p> <p>PP 18 Transfilling of Industrial Gas Cylinders</p> <p>SA 05 Disguised transportable gas cylinders</p>	Safety Training Leaflet 9: Cylinders for Compressed Gases
Cylinder Filling	<p>Doc. 02 Job motivation and safe operations in cylinder filling stations</p> <p>Doc. 83 Recommendations for safe filling of CO2 cylinders and bundles</p> <p>PP 18 Transfilling of Industrial Gas Cylinders</p> <p>SA 16 Fatal accident in an oxygen cylinder filling station</p> <p>NL 74 Fire in a ball valve / Filling connector for cyl. valves / Adiabatic compression in filling hoses –</p> <p>NL 87 Typical Oxygen Filling Incidents – Oxygen Incidents in Cylinder Filling Stations</p>	

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Cylinder Loading and Transportation	Doc. 173 ADR Transport Security Guidelines SA 05 Disguised transportable gas cylinders Info 25 Crane Transport of Cylinder Packages Category: Transport Safety Information - (Info TS 01 to 08) TP 43 ADR 2015 - Main changes linked to Class 2 transport SL 08 Safe Transport of Gases TP 52 Transporting Customers' Gases More Safely - Retail Staff	Safety Training Leaflet 11: Loading and Transporting Cylinders
Cylinders and their Handling and Storage	Doc. 189 The Calculation of Harm and No-harm Distances for the Storage and Use of Toxic Gases in Transportable Containers Doc. 176 Safe Practices for Storage and Handling of Nitrous Oxide Doc. 199 Safe Handling of Electronic Specialty Gases Info 02 Handling of Gas Cylinders during and after Exposure to Heat or Fire	Safety Training Leaflet 2: Basic Rules for Safety and Good Housekeeping
Defensive Driving	TP 28 Safe Driving in Bad Weather Conditions Info TS 03 Training: Induction and Refresher Training of Drivers, Management & Other Transport Function Personnel	
Driving Risks Distraction + Fatigue	Info TS 02 Vehicle Rollover and Other Serious Vehicle Incident Prevention Info TS 07 Human Behaviour within Transport Operations	
Dewar Handling	-	Safety Training Leaflet 12: Cryogenic Liquids, Spills and Vapour Clouds
EH&S Management System	Doc. 107 Guidelines on Environmental Management Systems	

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Electrical Safety - Basic Electricity	Info 30 Electrical Safety	Safety Training Leaflet 19: Portable Electric Tools Safety Training Leaflet 16: Electricity
Electricity High Voltage	Info 30 Electrical Safety	Safety Training Leaflet 16: Electricity
Emergency Preparedness	Info HF 06 Organisation - "Site Emergency Response" Doc. 81 Road vehicle emergency and recovery	
Energy Isolation, Lockout/Tagout (LOTO)	-	Safety Training Leaflet 23: Work Permit
Environmental + Waste Awareness, General	TP 01 Introduction to Environmental Issues in the Industrial Gases Industry TP 02 ASU Plants Environmental Issues TP 03 Acetylene Plants Environmental Issues TP 04 Cylinder Plant Environmental Issues	
Fall Protection	TP 09 Slips, Trips and Falls Info 36 Working at Height – the Hazard of Suspension Trauma when using Fall Arrest Systems	
Fire Fighting + Protection	-	Safety Training Leaflet 17: Fire
First Aid	-	
Forklift Driving	Doc. 165 Safe Operation with Fork Lift Trucks	Safety Training Leaflet 13: Fork Lift Trucks

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Forklift Safety Awareness	NL 81 Safety Recommendations for use of Fork Lift Trucks / Increasing the field of vision of a Fork Lift Truck driver	Safety Training Leaflet 13: Fork Lift Trucks
Gases - Acetylene	BN 10 Dissolved Acetylene: a Substance, not a Mixture!	Safety Training Leaflet 8: Acetylene, Calcium Carbide, Lime Sludge and Purifying Materials Safety Training Leaflet 9: Acetylene Cylinders
Gases - Argon	Doc. 44 Hazards of Oxygen-Deficient Atmospheres	Safety Training Leaflet 5: Inert Gases (Nitrogen & Argon)
Gases - Carbon dioxide	Info 24 Carbon Dioxide Physiological Hazards -“Not just an Asphyxiant!”	Safety Training Leaflet 6: Carbon Dioxide
Gases - Helium	Doc. 44 Hazards of Oxygen-Deficient Atmospheres	
Gases - Hydrogen	Doc. 6 Safety in Storage, Handling and Distribution of Liquid Hydrogen Doc. 15 Gaseous Hydrogen Stations	Safety Training Leaflet 7: Hydrogen
Gases - Nitrogen	Doc. 44 Hazards of Oxygen-Deficient Atmospheres	Safety Training Leaflet 5: Inert Gases (Nitrogen & Argon)
Gases - Oxygen	Doc. 04 Fire Hazards of Oxygen and Oxygen Enriched Atmospheres	Safety Training Leaflet 3: Oxygen
Gases - LPG/LNG	-	
Gases - toxic/corrosive	Doc. 130 Principles for the Safe Handling and Distribution of Highly Toxic Gases and Mixtures	
Hand Arm Vibration Awareness	-	
Hand Safety	Doc. 136 Selection of Personal Protective Equipment	

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Hearing Protection + Noise Risk Awareness	Doc. 85 Noise Management for the Industrial Gases Industry ENL 26 Noise	
Hearing Protection Awareness	Doc. 85 Noise Management for the Industrial Gases Industry ENL 26 Noise	
Heat Related Illness Prevention	Doc. 136 Selection of Personal Protective Equipment	
HyCo Operations	Doc. 155 Best Available Techniques for Hydrogen Production by Steam Methane Reforming Doc. 172 Combustion Safety for Steam Reformer Operation Doc. 185 Safe Start Up and Shutdown Practices for Steam Reformers	
Ladder Safety	-	
Life-Saving Rules	Doc. 924 Life Saving Rules TP 46 Life Saving Rules Presentation SL 06 Life Saving Rules Brochure SL 07 Life Saving Rules Poster	
Liquid Tanker Loading/Unloading	Doc. 179 Liquid Oxygen Nitrogen and Argon Cryogenic Tanker Loading Systems Doc. 909 EIGA Cryogenic Gases Couplings for Tanker Filling SA 03 EIGA Cryogenic Gases Coupling for Tanker filling Info 28 Operation of Carbon Dioxide Road Tankers and Equipment while Loading and Unloading	

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Lone worker	-	
LPG/LNG Operations	-	
Management of Change	Doc. 51 Management of Change	
Manual Handling + Ergonomics	-	
Office Ergonomics + office risks	-	
Oxygen Compatibility	NL 75 Compatibility of Gas and Cylinder Material / ASU Cold Box Over-pressurisation Doc. 161 Gas Compatibility with Aluminium Alloy Cylinders	Safety Training Leaflet 3: Oxygen
Personal Protective Equipment (PPE)	Doc. 136 Selection of Personal Protective Equipment	
Portable Atmosphere Monitors	-	
Portable Tools	-	Safety Training Leaflet 19: Portable Electric Tools Safety Training Leaflet 19: Portable Pneumatic Tools Safety Training Leaflet 18: Hand Tools
Pressure Hazards	-	Safety Training Leaflet 15: Gas Pressure
Process Safety Management	-	

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Properties /Classification of Gases + Liquids	Doc. 169 Classification, and Labelling Guide in accordance with EC Regulation 1272/2008 (CLP Regulation) Doc. 906 Classification, Labelling and Safety Data Sheet Guide	
Respirators Programme	-	
Safety Data Sheets		
Safety Work Permit	Doc. 40 Work Permit Systems	Safety Training Leaflet 23: Work Permit
Scaffold Safety		
Spec.Gases Operations	TP 36 Electronic Specialty Gases Near Miss Incidents Doc. 199 Safe Handling of Electronic Specialty Gases	
Slips, Trips & Falls	TP 09 Slips, Trips and Falls	
Site Security Awareness	Doc. 922 Site Security	
Storage, Hazardous Substances	ENL 09 Above Ground Storage Tanks for Substances Harmful to the Environment	
Storage, Underground Tanks (Awareness)	ENL 09 Above Ground Storage Tanks for Substances Harmful to the Environment ENL 02 Environmental Considerations for Underground Storage Tanks (UST) and Associated Pipework Doc. 171 Storage of Hydrogen in Systems Located Underground	
Tool Safety		

Training Topics	Useful EIGA Publications	Safety Training Leaflets
Traffic Risks & Controls (sites)	NL 81 Safety Recommendations for use of Fork Lift Trucks / Increasing the field of vision of a Fork Lift Truck driver	
Transport of Dangerous Goods	Doc. 173 ADR Transport Security Guidelines Transport Safety Information - Info TS 01 to 08	
Travel Risks	TP 28 Safe Driving in Bad Weather Conditions	
Vehicle Rollover Training	Info TS 02 Vehicle Rollover and Other Serious Vehicle Incident prevention	
Welding Safety	-	
Whole Body Vibration Awareness	-	
Working at Heights	Info 36 Working at Height – the Hazard of Suspension Trauma when using Fall Arrest Systems TP 09 Slips, Trips and Falls	
Workplace Risk Assessment	-	

Appendix 2 – Index of EIGA Safety Training Leaflets

Doc. 23.01	Safety Training Leaflet 1	Training for New Employees
Doc. 23.02	Safety Training Leaflet 2	Basic Rules for Safety and Good Housekeeping
Doc. 23.03	Safety Training Leaflet 3	Oxygen
Doc. 23.04	Safety Training Leaflet 4	Nitrous Oxide
Doc. 23.05	Safety Training Leaflet 5	Inert Gases (Nitrogen & Argon)
Doc. 23.06	Safety Training Leaflet 6	Carbon Dioxide
Doc. 23.07	Safety Training Leaflet 7	Hydrogen
Doc. 23.08	Safety Training Leaflet 8	Acetylene, Calcium Carbide, Lime Sludge and Purifying Materials
Doc. 23.09	Safety Training Leaflet 9	Cylinders for Compressed Gases
Doc. 23.10	Safety Training Leaflet 10	Acetylene Cylinders
Doc. 23.11	Safety Training Leaflet 11	Loading and Transporting Cylinders
Doc. 23.12	Safety Training Leaflet 12	Cryogenic Liquids, Spills and Vapour Clouds
Doc. 23.13	Safety Training Leaflet 13	Fork Lift Trucks
Doc. 23.14	Safety Training Leaflet 14	Critical Safety Systems - Alarm & Tripping Devices
Doc. 23.15	Safety Training Leaflet 15	Gas Pressure
Doc. 23.16	Safety Training Leaflet 16	Electricity
Doc. 23.17	Safety Training Leaflet 17	Fire
Doc. 23.18	Safety Training Leaflet 18	Hand Tools
Doc. 23.19	Safety Training Leaflet 19	Portable Electric Tools
Doc. 23.20	Safety Training Leaflet 20	Portable Pneumatic Tools
Doc. 23.21	Safety Training Leaflet 21	Chemicals
Doc. 23.22	Safety Training Leaflet 22	Work Permit