SLOVENSKI STANDARD
SIST EN 13109:2011

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Oprema in pribor za utekočinjeni naftni plin (UNP) - Posode in sodi za utekočinjeni naftni plin (UNP) - Trajno izločanje iz uporabe

LPG equipment and accessories - LPG tanks and drums - Disposal

Flüssiggas-Geräte und Ausrüstungsteile - Behälter und Fässer für Flüssiggas (LPG) - Entsorgung

Equipements et accessoires pour GPL - Réservoirs pour GPL - Élimination

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ICS:

23.020.10	Nepremične posode in rezervoarji	Stationary containers and tanks

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EUROPEAN STANDARD

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LPG equipment and accessories - LPG tanks and drums - Disposal

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 13109:2010) has been prepared by Technical Committee CEN/TC 286 "Liquefied petroleum gas equipment and accessories", the secretariat of which is held by NSAI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13109:2002.

The main technical change in this revision is the inclusion of an environmental checklist Annex C.

Users of this standard, prepared in the field of application of Article 118A of the EC Treaty, should be aware that standards have no formal legal relationship with Directives that may have been made under Article 118A of the Treaty. In addition, national legislation in the Member states may contain more stringent requirements than the minimum requirements of a Directive based on Article 118A. Information on the relationship between the national legislation implementing Directives based on Article 118A and this EN may be given in a national foreword of the national standard implementing this standard EN.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard specifies methods for the safe disposal of LPG tanks and drums.

This European Standard calls for the use of substances and procedures that may be injurious to health and/or the environment if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health, safety and environmental protection at any stage.

Protection of the environment is a key political issue in Europe and elsewhere. Protection of the environment is taken in a very broad sense. The standard takes into consideration the total lifecycle aspects of the activities involved in complying with the standard. These activities include all phases such as scrapping, recycling of materials, etc.

It has been assumed in the drafting of this European Standard that execution of its provisions is entrusted to appropriately qualified and experienced people.

1 Scope

This European Standard specifies methods for the safe gas freeing and disposal of LPG tanks and drums above 150-litre water capacity.

This European Standard is applicable to the following:

— tanks manufactured in accordance with EN 12542;

— drums manufactured in accordance with EN 14893, and

— LPG tanks and drums manufactured in accordance with any other pressure vessel code.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
liquefied petroleum gas
LPG
mixture of predominantly butane or propane with traces of other hydrocarbon gases classified in accordance with UN number 1965, hydrocarbon gases mixture, liquefied, NOS or UN number 1075, petroleum gases, liquefied

NOTE In some countries, UN numbers 1011 and 1978 may also be designated LPG.

3.2
gas free
with an LPG concentration in air less than 20 % of the lower explosive limit

3.3
disposal
gas freeing and discarding LPG tanks and drums either in the form of scrap metal or for use in non-pressure applications

3.4
competent person
person who, by qualification, training, experience and resources, is able to make objective judgements related to the safe disposal of LPG tanks and drums

3.5
hydrate
hydrocarbon and water compound which forms under reduced temperature and pressure, e.g. venting, and in appearance resemble snow or ice, and can plug equipment

4 Gas freeing of tanks and drums

4.1 Residual liquid LPG shall be safely removed from a tank or drum by a competent person.

4.2 LPG shall be either:

— returned to an in-service LPG tank, or

— flared through a purpose designed flare stack fitted with a flame arrestor, or

— vented through a purpose designed high level vent, in a controlled manner, that ensures that the vented gas is diluted to less than 20 % of the lower explosive limit before it reaches ground level or any potential source of ignition (see Annex B), or

— a combination of any of these options.

For safety and environmental protection reasons the first option is preferable.

4.3 Tanks and drums shall be made gas free by a method chosen and controlled by a competent person.

NOTE 1 Annex A gives examples of gas freeing methods.

NOTE 2 The method of gas freeing should be selected so that it is technically effective and the environmental impact reduced to a minimum. After selecting the appropriate method, all suitable measures should be implemented in order to minimise the loss of energy, the emissions to air, raw material consumption and waste (e.g. inert gas, water, steam).

NOTE 3 Noise levels from additional equipment (e.g. compressor or vacuum pump) should be evaluated and measures put in place to minimise the impact upon the external environment.

4.4 Any flammable liquids remaining in the tank or drum (e.g. oily residues) shall be removed and disposed of in a suitable manner before the tank or drum can be considered gas free.

4.5 LPG tanks and drums shall be appropriately labelled e.g. "gas free" or "N_2 purged".

WARNING — If entry into the tank is necessary, a valid safe entry certificate shall be required.

4.6 Pressure relief valve assemblies, LPG fill couplings and all other fittings shall be removed. These fittings shall be scrapped and recycled or reconditioned where possible.

NOTE It may be necessary to render valve outlets beyond repair to prevent reinstallation of LPG equipment where there is a concern that tanks and drums may be illegally reused for LPG.

5 Scrapping of tanks and drums

5.1 Tanks and drums shall be certified gas free and a hot work certificate issued prior to hot-work or cutting operations being undertaken.

5.2 All nameplates shall be removed or permanently defaced.

5.3 Tanks and drums shall be scrapped by either:

— mechanical shredding,

— crushing by mechanical means, or

— cutting each tank or drum into two or more irregularly shaped pieces.

NOTE Noise levels from crushing or cutting should be evaluated and measures put into place to minimise the impact upon the external environment.

5.4 After the above procedures as described in 5.3, tanks and drums shall be considered as scrap material. Scrap material shall be passed only to an authorised scrapping agent who is liable for the effective disposal of

the material and the minimising of waste. The selection of the scrapping agent shall consider the total scrapping cycle of the tanks and drums (e.g. energy, transportation, waste). The scrapping agent shall be given details of any tank or drum coatings.

5.5 Underground tanks, if left in place, shall be filled with water or inert materials. All relevant measures shall be taken to ensure that the underground tank will not leak and contaminate the soil.

NOTE National Building Codes or other relevant National Regulations should be considered.

6 Disposal of tanks and drums for uses other than for LPG storage

6.1 The use of tanks and drums for non-pressure applications is not excluded and can be considered as a good way of recycling tanks and drums which are unfit for service as pressure equipment. Adequate precautions shall be taken with respect to the nature and use of the product stored. The tanks and drums shall be appropriately labelled, e.g. "Do not pressurise".

6.2 Tanks and drums shall be checked to ensure that they are depressurised and gas free.

6.3 All nameplates, any direct stamp markings and other labelling shall be removed or permanently defaced.