



Hengyi Industries Sdn Bhd
恒逸实业（文莱）有限公司

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Liquefied Petroleum Gas

液化石油气

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1 Scope 范围

This standard specifies the requirements, test methods, inspection rules, marking, packaging, transportation and storage of liquefied petroleum gas produced by LPG Fractionation Unit.

本标准规定了气体分馏装置生产的液化石油气的要求、试验方法、检验规则、标志、包装、运输和贮存。

2 Normative Reference Documents 规范性引用文件

The clauses in the following documents become the clauses of this standard by reference to this standard. For dated reference documents, all subsequent amendments (excluding corrigenda) or revised versions thereof are not applicable to this standard. However, parties reaching agreements according to this standard are encouraged to study whether the latest versions of these documents can be used. For undated reference documents, the latest version is applicable to this standard.

下列文件中的条款通过本标准的引用而成为本标准的条款。凡是注日期的引用文件，其随后所有的修改单（不包括勘误的内容）或修订版均不适用于本标准，然而，鼓励根据本标准达成协议的各方研究是否可使用这些文件的最新版本。凡是不注明日期的引用文件，其最新版本适用于本标准。

2.1 ASTM D1265 Practice for Sampling Liquefied Petroleum (LP) Gases, Manual Method
液化石油气（LP）手动取样方法

2.2 ASTM D2598 Standard Practice for Calculation of Certain Physical Properties of Liquefied Petroleum (LP) Gases from Compositional Analysis 通过组成分析计算液化石油气(LP)某些物理性质的实施规程

2.3 ASTM D2163 Test Method for Determination of Hydrocarbons in Liquefied Petroleum (LP) Gases and Propane/Propene Mixtures by Gas Chromatography 气相色谱法测定液化石油气（LP）和丙烷/丙烯混合气中碳氢化合物的试验方法

2.4 ASTM D1838 Standard Test Method for Copper Strip Corrosion by Liquefied Petroleum (LP) Gases 液化石油气铜片腐蚀的试验方法

2.5 ASTM D 2420 Standard Test Method for Hydrogen Sulfide in Liquefied Petroleum (LP) Gases (Lead Acetate Method) 液化石油气中硫化氢的试验方法(醋酸铅法)

2.6 ASTM D6667 Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence 紫外荧光法测定气态烃和液化石油气中总挥发性硫的试验方法

2.7 ASTM D2158 Standard Test Method for Residues in Liquefied Petroleum (LP) Gases 液化石油气中残留物的试验方法

2.8 ASTM D1837 Standard Test Method for Volatility of Liquefied Petroleum (LP) Gases 液化石油气挥发性的试验方法

2.9 SH 0164 Petroleum products packaging, shipping and delivery acceptance rules 石油产品包装、贮运及交货验收规则

2.10 NFPA 58 Liquefied Petroleum Gas Code 液化石油气准则

3 Product Classification 产品分类

None

无

4 Technical Requirements and Test Methods 技术要求和试验方法

4.1 See Table 1 for liquefied petroleum gas technical requirements.

液化石油气技术要求见表 1.

Table 1 Liquefied Petroleum Gas Technical Requirements

表 1.液化石油气技术要求

Property 性能	Quality Indicator 质量指标	Test Method 试验方法
Density @15°C, kg/L 15°C 密度, Kg/L	Report 报告	ASTM D2598
C2 & Lighter (Vol%) C2 及以下(体积分数)/%	max 不大于 2.0	ASTM D2163
C3 & Lighter C3及以下 (体积分数)/%	30.0~50.0	ASTM D2163

C4 & Heavier (vol%) C4 及以上 (体积分数)/%		Report 报告	ASTM D2163
C5 & Heavier (vol%) C5 及以上 (体积分数)/%	max 不大于	2.0	ASTM D2163
Unsaturation content (vol%) 烯烃含量(体积分数)/%	max 不大于	4.0	ASTM D2163
Diene (vol%) 二烯烃(体积分数)/%	max 不大于	0.4	ASTM D2163
N-Butane (vol%) 正丁烷 (体积分数) /%		Report 报告	ASTM D2163
ISO-Butane (vol%) 异丁烷 (体积分数) /%		Report 报告	ASTM D2163
Vapor pressure @37.8°C, kPa 37.8°C 蒸气压/ kPa		Report 报告	ASTM D2598
Copper strip corrosion, 1h@37.8°C 铜片腐蚀,	max 不大于	1	ASTM D1838
Hydrogen sulfide 硫化氢		Negative 无	ASTM D2420
Total sulfur content (mg/kg) 总硫含量/mg/kg	max 不大于	100	ASTM D6667
Evaporative residue (vol%) 蒸发残留物 (体积分数)/%	max 不大于	0.05	ASTM D2158
Free water content 游离水		None 无	Visual 目测
Volatility Weathering off@95% Evap °C max 95%挥发温度/°C	不大于	2.2	ASTM D1837
Odor (Ethyl Mercaptan) 气味 (乙硫醇)		Detectable Smell 可闻到气味	Qualitative 定性
Odor (Ethyl Mercaptan) (mg/L) 气味 (乙硫醇) (mg/L)		TBA by buyer, 12~20	Quantitative 定量

Note: Ethyl mercaptan (odorant) is added according to customer requirements.

备注：乙硫醇（加臭剂）根据客户需求添加。

4.2 Inspection Rules 检验规则

4.2.1 Export Inspection 出厂检验

All the quality indicators specified in Table 1 of Chapter 4 of this standard shall be inspected. After passing the inspection, the product can only be exported with product quality certificate attached.

按本标准第 4 章表 1 规定的全部质量指标进行检验, 合格后, 并附产品质量合格证明书方可出厂。

4.2.2 Batch Grouping Rules 组批规则

One tank of product is considered as one batch.

本产品以一罐为一批。

4.2.3 Judgment Rules 判定规则

When all the results of export inspection meet the requirements in Table 1 of Chapter 4 of this standard, the batch of products shall be judged as qualified.

出厂检验的结果全部符合本标准第 4 章表 1 的要求时, 则判定该批产品为合格。

4.2.4 Re-inspection Rules 复检规则

If the export inspection results do not conform to the regulations of Chapter 4 technical indicators, double amount of samples shall be re-sampled according to ASTM D1265 for re-inspection. If the re-inspection results still have a technical indicator that does not conform to this standard, the batch of products shall be judged as unqualified.

如出厂检验结果中有不符合第 4 章技术指标的规定时, 按 ASTM D1265 的规定重新抽取双倍量样品进行复检, 复检结果如仍有一项不符合本标准的技术指标时, 则判定该批产品为不合格。

5 Sampling 取样

Sampling shall be conducted in accordance with ASTM D1265.

取样按 ASTM D1265 规定进行。

6 Marking, Packaging, Transportation and Storage 标志、包装、运输和贮存

The packaging, marking, storage, transportation and delivery acceptance of this product shall be conducted according to SH 0164.

本产品的包装、标志、贮存、运输及交货验收按 SH 0164 进行。

7 Safety 安全

Liquefied petroleum gas is a flammable liquid, and the safety issues involved should comply with the relevant laws, regulations and standards.

液化石油气属于易燃液体，其涉及的安全问题应符合相关法律、法规和标准的规定。

8 Appendix 附件

None

无

