

DIN EN ISO 16903:2015-11 (E)

Petroleum and natural gas industries - Characteristics of LNG, influencing the design and material selection (ISO 16903:2015)

Contents		Page
European foreword		3
1	Scope	4
2	Normative references	4
3	Terms and definitions	4
4	Abbreviated terms	5
5	General characteristics of LNG	5
5.1	General	5
5.2	Properties of LNG	5
5.2.1	Composition	5
5.2.2	Density	5
5.2.3	Temperature	6
5.2.4	Viscosity	6
5.2.5	Examples of LNG	6
5.3	Physical properties	6
5.3.1	Physical properties of boil-off gas	6
5.3.2	Flash	7
5.3.3	Spillage of LNG	7
5.3.4	Expansion and dispersion of gas clouds	7
5.3.5	Ignition	8
5.3.6	Pool fires	8
5.3.7	Development and consequences of pressure waves	8
5.3.8	Containment	8
5.3.9	Rollover	8
5.3.10	RPT	9
5.3.11	BLEVE	9
6	Health and safety	9
6.1	General	9
6.2	Exposure to cold	10
6.2.1	Warning notice	10
6.2.2	Handling, cold contact burns	10
6.2.3	Frostbite	10
6.2.4	Effect of cold on the lungs	10
6.2.5	Hypothermia	10
6.2.6	Recommended protective clothing	10
6.3	Exposure to gas	10
6.3.1	Toxicity	10
6.3.2	Asphyxia	10
6.4	Fire precautions and protection	11
6.5	Colour	11
6.6	Odour	11
7	Materials of construction	11
7.1	Materials used in the LNG industry	11
7.1.1	General	11
7.1.2	Materials in direct contact	11

7.1.3	Materials not in direct contact under normal operation	12
7.1.4	Other information	12
7.2	Thermal stresses	13
Bibliography		14