SRI LANKA STANDARD 216:1973
UDC 668.736.3:547.65

SPECIFICATION FOR

NAPHTHA

BUREAU OF CEYLON STANDARDS

SPECIFICATION FOR NAPHTHA

SLS 216 : 1973

(Attached AMD 292)

Gr.6

BUREAU OF CEYLON STANDARDS
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Sri Lanka.

Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This Standard does not purport to include all the necessary provisions of a contract.

SRI LANKA STANDARD
SPECIFICATION FOR NAPHTHA

FOREWORD

This Sri Lanka Standard has been prepared by the Drafting Committee on Naphtha. It was approved by the Agricultural and Chemicals Divisional Committee of the Bureau of Ceylon Standards and was authorised for adoption and publication by the Council of the Bureau on 1973-09-10.

This standard specification is one of a series of Ceylon Standards on Petroleum Products. Values given in this standard are in SI units wherever possible.

The requirements stipulated in this standard specification is applicable to petroleum naphthas recovered from the processing of crude oil.

This standard specification covers all grades of naphthas keeping all the end uses in view. Naphtha is used as the chief constituent of gasoline, as a solvent and in the manufacture of petro-chemicals.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with CS 102 Presentation of numerical values. The number of figures to be retained in the rounded off value shall

be the same as that of the specified value in the standard.

In formulating this standard specification, publications of the British Standards Institution, Indian Standards Institution, American Society for Testing and Materials, Institute of Petroleum and the United States Federal Supply Service were taken into consideration.

1 SCOPE

This standard specification prescribes the requirements for different grades of solvent and chemical naphtha.

2 CLASSIFICATION

Solvent and Chemical Naphthas are classified into different types depending on the boiling ranges.

A Solvent Naphtha

Type 1 - SBP 62 ^{o}C to 82 ^{o}C
Type 2 - SBP 60 ^{o}C to 145 ^{o}C
Type 3 - Low aromatic white spirits.

B Chemical Naphtha

3 REQUIREMENTS

3.1 Material requirements

The naphthas shall consist completely of hydrocarbons.

3.2 Quantitative requirements

The naphtha shall also comply with the requirements given in Tables 1 and 2.

TABLE 1 Requirements for solvent naphtha

Serial No.	Characteristics	Requirements			Method of test Ref. to
		Type 1	Type 2	Type 3	
1	Specific gravity at 60 °F/60 °F min.	0.680	0.713	0.775	
2	Colour Seybolt min.	25	25	25	
3	Flashpoint °C	-	-	37 to 43	
4	Distillation °C				
	a) IBP	626 min.	60 min.	142 to 158	
	b) 50% volume recovery	**	85 to 105	**	
	c) 90% volume recovery	**	105 to 130	**	CS ..*
	d) 95% volume recovery	**	145 max.	**	
	e) Dry point	82 max.	155 max.	198 max.	
5	Distillate residue per cent by volume	**	**	1.5 max.	
6	Residue on evaporation mg/100 ml max.	**	**	**	
7	Non-volatile matter per cent volume max.	**	**	**	
8	Sulphur per cent mass max.	0.005	0.005	0.05	
9	Aromatic content per cent volume max.	6	16	20	
10	Copper corrosion test 3 h at 50 °C	No. 1	**	No. 1	
11	Doctor test	**	**	**	

To be reported on request.

TABLE 2 Typical requirements for chemical naphtha

Serial No.	Characteristics	Requirements	Methods of test Ref. to
1	Specific gravity at 60 °F/60 °F	0.650 - 0.750	
2	Colour Seybolt min.	25	
3	RVP at 100 °F max.	10.0	
4	Distillation °C		CS...*
	a) 10% volume recovery max.	75	
	b) 50% volume recovery max.	115	
	c) 70% volume recovery max.	145	
	d) 90% volume recovery max.	170	
	e) End point max.	180	
5	Lead content p.p.b. max.	50	
6	Sulphur content p.p.m. max.	50	
7	Hydrogen sulphide p.p.m. max.	3	
8	Paraffins per cent volume min.	70	
9	Olefines per cent volume max.	1.0	
10	Aromatics per cent volume max.	15.0	

**CS... Test methods for petroleum products (Under preparation).*

3.3 Qualitative requirements

3.3.1 *Appearance*

Naphthas shall be clear and free from separated water, sediment and suspended matter when examined visually by transmitted light.

3.3.2 *Acidity*

3.3.2.1 *Material*

One gram of naphtha shall not require more than 0.03 milligram of potassium hydroxide to neutralize the acidity.

3.3.2.2 *Residue*

After distillation the naphtha shall not contain free mineral acids.

3.3.3 *Stability*

The naphtha shall show no appreciable change in appearance, colour, odour or acidity after being subjected to the stability test described in CS....*

3.4 For chemical naphthas buyers requirements shall be on agreement between the purchaser and the manufacturer.

4 PACKING

The material shall be packed in securely closed metal containers.

4.1 All containers in which the material is packed shall be dry, clean leak proof and free from material soluble in naphtha.

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*CS...*Test methods for petroleum products (Under preparation).*

4.2 Necessary safeguards against the risks arising from the storage and handling of large volumes of flammable liquids shall be provided and all due precautions shall be taken at all times to prevent accidents by fire or explosion.

4.3 All empty tanks or other containers shall be kept securely closed unless they have been thoroughly cleaned or unless it is necessary to open them for the purpose of cleaning and rendering them free from flammable vapour.

5 MARKING

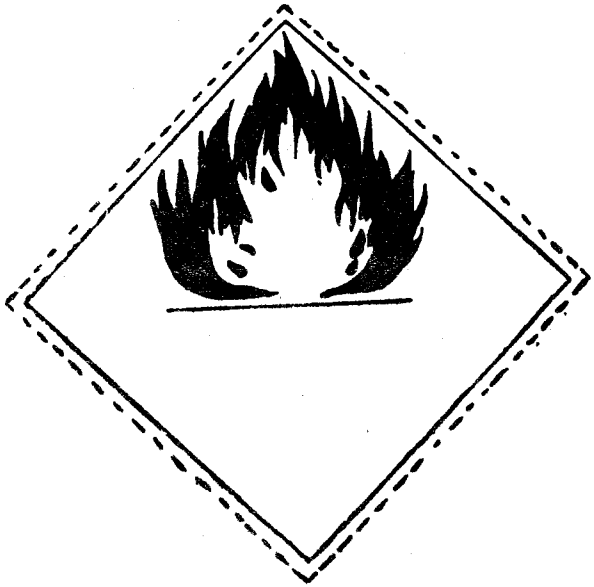
Each container shall be marked with the following:

a) Name of the manufacturer.
b) Type and mass of the material in the container.
c) Recognised trade mark, if any.
d) Caution label 'FLAMMABLE LIQUID' in red letters together with corresponding symbol for labelling of dangerous goods as indicated below.
e) Label 'Store in a cool place' in block letters.
f) The words 'Made in Sri Lanka (Ceylon).'

6 SAMPLING

Sampling shall be carried out according to the method given in CS...*

*CS... *Standard on sampling of petroleum products (Under preparation).*



Pictorial Marking for ' Flammable Liquid

AMENDMENT TO SLS 216 : 1973 SPECIFICATION FOR NAPHTHA

EXPLANATORY NOTE

In the existing standard the methods of test have not been included.

Therefore this amendment is issued to include the methods of test.

AMENDMENT NO. 1. APPROVED ON 2002-08-08
TO SLS 216 : 1973

SPECIFICATION FOR NAPHTHA

Replace TABLE 1 Requirements for solvent naphtha by following

Sl No. (1)	Characteristics (2)	Requirements			Method of test Ref. to (6)
		Type 1 (3)	Type 2 (4)	Type 3 (5)	
i	Specific gravity at 60 °F/60 °F min.	0.680	0.713	0.775	ASTM D 1298
ii	Colour Seybolt min.	25	25	25	ASTM D 156
iii	Flashpoint °C	-	-	37 to 43	ASTM D 56*
iv	Distillation °C				
	a) IBP	626 min	60 min.	142 to 158	ASTM D 86
	b) 50% volume recovery	**	85 to 105	**	
	c) 90% volume recovery	**	105 to 130	**	
	d) 95% volume recovery	**	145 max.	**	
	e) Dry point	82 max.	155 max.	198 max	
v	Distillate residue per cent by volume	**	**	1.5 max.	ASTM D 86
vi	Residue on evaporation mg/100 ml max.	**	**	**	
vii	Non-volatile matter per cent volume max.	**	**	**	
viii	Sulphur per cent mass max.	0.005	0.005	0.05	UOP 357
ix	Aromatic content per cent volume max.	6	16	20	UOP 273
x	Copper corrosion test 3 h at 50 °C	No. 1	**	No. 1	ASTM D 130
xi	Doctor test	**	**	**	ASTM D 4952 /IP30

** To be reported on request.
* For type 3 only

Replace TABLE 2 Typical requirements for chemical naphtha by following

Sl No. (1)	Characteristics (2)	Requirements (3)	Method of test Ref. to (4)
i	Specific gravity at 60 ^{o}F/60 ^{o}F	0.650-0.750	ASTM D 1298
ii	Colour Seybolt min.	25	ASTM D 156
iii	RVP at 100 ^{o}F max.	10.0	ASTM D 323
iv	Distillation ^{o}C		
	a) 10% volume recovery max.	75	ASTM D 86
	b) 50% volume recovery max.	115	
	c) 70% volume recovery max.	145	
	d) 90% volume recovery max.	170	
	e) End point max.	180	
v	Lead content ppb. max	50	UOP 350
vi	Sulphur content ppm. max.	50	UOP 357
vii	Hydrogen sulphide ppm. max.	3	UOP 163
viii	Paraffins per cent volume min.	70	UOP 273
ix	Olefines per cent volume max.	1.0	UOP 273
x	Aromatics per cent volume max.	15.0	UOP 273

Clause 2 REFERENCES

Insert the following as clause 2 'REFERENCES'

ASTM D	56	Test method for flash point by tag closed tester
ASTM D	86	Test method for distillation of petroleum products
ASMT D	130	Test method for detection of copper corrosion from petroleum products copper strip tarnish test
ASTM D	156	Test method for saybolt colour of petroleum products (saybolt chromomfer method)
ASTM D	323	Test method for vapour pressure of petroleum products (Reid Method)
ASTM D	1298	Test method for density, relative density (specific gravity) or API gravity of crude petroleum and liquid petroleum products by hydrometer method.
ASTM D	4952	Test method for qualitative analysis for active sulfur species in fuels and solvents (Doctor Tests)
IP	30	Detection of mercaptan hydrogen sulphide, element sulphur and peroxide (Doctor Tests)
UOP*	163	Hydrogen sulphide and mercaptan sulfur in liquid hydrocarbons by potentiometric titration
UOP	273	Hydrocarbon types in petroleum fractions boiling below 400 ^{o}F
UOP	350	Trace concentrations of lead in gasoline or petroleum naphthas
UOP	357	Traces of sulphur in petroleum distillates by nickel reduction method
SLS	561	Methods of sampling petroleum and petroleum products

UOP* Universal Oil Products

Re- number the other clauses accordingly

Clause 7 SAMPLING

Line 2, delete 'CS' and insert 'SLS 561'

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The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI *which includes surveillance inspection of the factory, testing of both factory and market samples.*

Further particulars of the terms and conditions of the permit may be obtained from the Sri *Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.*

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SRI LANKA STANDARDS INSTITUTION

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The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

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