SRI LANKA STANDARD 819:1988

UDC 628.543:678.03

TOLERANCE LIMITS FOR EFFLUENTS FROM RAW RUBBER INDUSTRY

SRI LANKA STANDARDS INSTITUTION

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SLS 819:1988

Gr. 4

SRI LANKA STANDARDS INSTITUTION
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Sri Lanka.

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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
TOLERANCE LIMITS FOR EFFLUENTS FROM RAW RUBBER INDUSTRY

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1988-06-07, after the draft, finalized by the Drafting Committee on Industrial Effluents, had been approved by the Chemicals Divisional Committee.

The tolerance limits prescribed in this standard are intended to guide the local authorities in framing rules regarding disposal of effluents from certain rubber factories. In arriving at a decision on the tolerance limits and site selection the authorities shall in consultation with the Central Environmental Authority (CEA), give due consideration to the local conditions.

Tolerance limits for colour and odour have not been prescribed in this standard but it is recommended that as far as practicable, colour and unpleasant odours shall not be present in effluents.

The standard values given in this standard are in SI units.

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 or an analysis shall be rounded off in accordance with CS 102. The number of significant places retained in the rounded off value shall be the same as that of the specified value in this standard.

In the preparation of this standard the assistance obtained from the publications of the American Public Health Association, the Rubber Research Institute of Malaysia and the World Health Organization is gratefully acknowledged.

1 SCOPE

This standard prescribes tolerance limits and methods of sampling and test for effluents from latex concentrate, standard lanka rubber (SLR), crepe rubber and ribbed smoked sheets (RSS) processing factories after treatment before dilution at the point of discharge into inland surface waters.

2 REFERENCES

APHA-AWWA-WPCF	Standard methods for the examination of water and waste water.
UNESCO/WHO	Global environmental monitoring systems water operational guide.
CS 102	Presentation of numerical values.
SLS 652	Tolerance limits for industrial effluents discharged into inland surface waters.

3 REQUIREMENTS

Effluents from rubber factories shall comply with the tolerance limits specified in Table 1.

4 SAMPLING

Representative samples of the effluent shall be obtained as prescribed in 4 of SLS 652 : 1984.

5 METHODS OF TEST

5.1 Samples obtained as described in 4 shall be tested for the relevant requirements of the standard as prescribed in the following publications and Appendix A.

a) American Public Health Association (APHA), American Water Works Association (AWWA) and Water Pollution Control Federation (WPCF).

Standard methods for the examination of water and waste water : 15th ed. New York, APHA.

b) UNESCO/WHO

Global environmental monitoring systems water operational guide, 1978.

5.2 For certain determinants two test methods have been given in Table 1. The reference method shall be used in case of dispute.

APPENDIX A

DETERMINATION OF TOTAL SOLIDS

A.1 TOTAL SUSPENDED SOLIDS

Determine the total suspended solids by glass fibre filtration method given in publication (a) of 5.

TABLE 1 - Tolerance limits for effluents from rubber factories

Sl. No.	Determinant	Tolerance limits for effluents from		Method of test (Ref. to publication in Clause 5 and relevant Appendix)	Technique of the method
		Type 1 factories*	Type 2 factories**		
(1)	(2)	(3)	(4)	(5)	(6)
i)	pH value at ambient temperature	6.5 to 8.5	6.5 to 8.5	a	Electrometry by means of pH meter with a glass electrode (Reference method)
ii)	Total suspended solids, mg/l, max.	100	100	b a	Colorimetry Glass fibre filtration 103 °C to 105 °C post washing of residue
iii)	Total solids, mg/l, max.	1 500	1 000	Appendix A	-
iv)	Biochemical oxygen demand (BOD), mg/l, max.	60	50	b	Incubation for 3 days at ambient temperature Incubation for 5 days at 20°C (Reference method)
v)	Chemical oxygen demand (COD), mg/l, max.	400	400	a	Dichromate reflux
vi)	Total nitrogen, mg/l, max.	300	60	a	Kjeldahl method
vii)	Ammoniacal nitrogen, mg/l, max.	300	40	a	Nesslerization method
viii)	Sulfides, mg/l, max.	2.0	2.0	a a	Titrimetric-iodine method Methylene blue method (Reference method)

* Type 1 factories - latex concentrate

** Type 2 factories - standard lanka rubber ; crepe rubber; and ribbed smoked sheets.

A.2 TOTAL DISSOLVED SOLIDS

Determine the total dissolved solids by the following method.

A.2.1 Apparatus

A.2.1.1 *Evaporating dish*, of platinum or porcelain or silica, of 150-ml to 200-ml capacity.

A.2.2 Procedure

Dry the empty and clean evaporating dish in an oven at 103 °C to 105 °C. Cool and weigh. Repeat heating, cooling and weighing until the difference in mass between two successive weighings does not exceed 1 mg. Filter a suitable volume of the sample through a filter paper (Whatman No.42 or equivalent). Transfer quantitatively to the previously weighed evaporating dish, a volume of the filtered sample which will yield a residue between 100 mg and 250 mg. Evaporate to dryness on a steam bath. Dry the residue at 105 °C. Cool and weigh. Repeat heating, cooling and weighing until the difference in mass between two successive weighings does not exceed 1 mg.

A.2.3 Calculation

Total dissolved solids, in mg/l = $1\ 000\ \frac{m}{V}$

Where,

m = mass, in mg, of the residue; and

V = volume, in ml, of the sample originally taken for the test.

A.3 REPORTING OF RESULTS

Calculate the total solids as follows:

Total solids, in mg/l = Total suspended solids + Total dissolved solids.

SRI LANKA STANDARDS INSTITUTION

The Sri Lanka Standards Institution (SLSI) is the National Standards Organization of Sri Lanka established under the Sri Lanka Standards Institution Act No. 6 of 1984 which repealed and replaced the Bureau of Ceylon Standards Act No. 38 of 1964. The Institution functions under the Ministry of Science & Technology.

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.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.

Printed at the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.

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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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