##### DRAFT EAST AFRICAN STANDARD

Illuminating kerosene — Specification

EAST AFRICAN COMMUNITY

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The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

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The committee responsible for this document is Technical Committee EASC/TC 068, *Petroleum and petroleum products.*

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# Illuminating Kerosene — Specification

# 1 Scope

This Draft East Africa Standard specifies requirements, test methods and sampling of Illuminating Kerosene suitable for use in domestic, commercial and industrial application.

# 2 Normative references

The following referenced documents referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

*ASTM D 56, Test method for flash point tag closed tester*

*ASTMD 86, Test for distillation of petroleum products*

*ASTM D 156, Test for Saybolt colour of petroleum products (Saybolt chronometer method)*

*ASTM D 187, Standard test method for burning quality of kerosene*

*ASTM D 240, Test for heat of combustion of liquid hydrocarbon fuel (general bomb method)*

*ASTM D 381, Test for existent gum in fuels by jet evaporation*

*ASTM D 445, Test for viscosity of transparent and opaque liquid (kinematic and dynamic viscosities)*

*ASTM D 484, Specification for hydrocarbon dry cleaning solvents*

*ASTM D 611, Test for aniline point and mixed aniline point of petroleum products and hydrocarbon*

*solvents*

*ASTM D 1094, Test for water reaction of aviation fuels*

*ASTM D 1219, Test for mercaptan sulphur in aviation turine fuels (colour-indicator method)*

*ASTM D3227, Potentiometric titration method*

*ASTM D 1266, Test for sulphur in petroleum products (lamp method)*

*ASTM D 1298, Test for density, specific gravity or API gravity of crude petroleum and liquid petroleum products by hydrometer method*

*ASTM D 1322, Test for smoke point of aviation turbine fuels*

*ASTM D 1322, Test for smoke point of aviation turbine fuels*

*ASTM D 1740, Test for luminometer numbers of aviation turbine fuels*

*ASTM D 1840, Test for naphthalene hydrocarbons in aviation turbine fuels by ultraviolet spectrophotometer*

*ASTM D 2386, Test for freezing point of aviation fuels*

*AST/IM D 2550, Test for water separation characteristics of aviation turbine fuels*

*ASTM D 2624, Test for electrical conductivity of aviation fuels containing a static dissipator additive*

*ASTM D 3241, Test for thermal oxidation stability of aviation turbine fuels (JFTOT*

*procedure)*

*ASTMD 3828, Test method for flash point by Setaflash closed tester*

*IP 227, Silver corrosion by aviation turbine fuel*

*IP 273, Total acidity in aviation turbine fuel*

# ISO 1998-1, Petroleum industry — Terminology — Part 1: Raw materials and products3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 1998-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

**bloom**

fluorescence of a petroleum product when viewed by reflected daylight

3.3

**copper strip test**

method intended to evaluate the corrosive tendencies of a product with respect to copper

3.4

final boiling point (end point)

maximum temperature reading noted (corrected if required) during the final phase of a distillation carried

out under standardized conditions.

NOTES – 1 This usually occurs after the evaporation of all liquid from the bottom of the tank.

2 The thermometer reading may be corrected for barometric pressure.

3.5

**flash point**

minimum temperature to which a product must be heated for the vapour emitted to ignite momentarily in the presence of a flame, when operating under standardized conditions.

3.6

**initial boiling point**

temperature reading noted (corrected if required) at the moment when the first drop of condensate fall.3.7

**Illuminating Kerosene**

distilled fraction having a volatility intermediate between that of gasoline and automotive gas oil, with a flash point above 38 ˚C. It is designed for use in domestic, commercial and industrial applications

**3.8**

**smoke point**

maximum height (in millimeters) of flame that can be obtained without smoking when a petroleum

distillate is burned in a standardized lamp under standardized conditions.

**3.9**

**Visual appearance**

as assessment of a product in terms of its color and clarity, without artificial aids.

NOTES – 1. It includes the presence or absence of undissolved water or wax in terms of their haze

potential and the presence or absence of adventitious particulate matter.

2. Has rate scales are sometimes used as an addition to visual appearance.

**3.10 Marker:**

chemical substances introduced into kerosene for identification, traceability and regulation without altering their properties.

3.11

portable containers are freight containers designed for intermodal transportation that is; land, sea, or air. There are various dimensions and classifications for these containers, making them interchangeable and stackable for efficient global trade.

# 4 Requirements

## 4.1 General requirements

**4.1.1**Illuminating kerosene shall be a homogeneous mixture of straight chain hydrocarbons derived from petroleum refining.

NOTE – Additive usage can be established by mutual agreement of the supplier and the purchaser

.

4.1.4 It shall possess a characteristic odour

4.1.5 Markers may be added to the kerosene in acceptable concentrations as allowed by the national regulation of the country and shall not alter the performance characteristics of the kerosene.

## 4.2 Specific requirements

The illuminating kerosene shall comply with the requirements given in Table 1 when tested in accordance with the test methods prescribed therein.

Table 1 — Specific requirements for illuminating kerosene

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Property** | **Requirement** | **Test method** |
|  | Density @ 20°C, Kg/m3 | 0.771- 0.830 | ASTM D 1298  ASTM D 4052 |
|  | Appearance | Bright and clear | Visual |
|  | Burning quality  a) Char value, of oil consumed  mg/Kg, max.  b) bloom on glass chimney | 20  Not darker than gray | ASTM D 187  IP 10 |
|  | Color (Soybolt), min | +15 | ASTM D 156 |
|  | Copper strip corrosion (2 h at 100°C), max. | 1 | ASTM 130 |
|  | Distillation   1. percentage recovered at 200 ˚C., min 2. 10% recovery, °C, max. 3. final boiling point ˚C, max | 20  204  300 | ASTM D 86 |
|  | Flash point, ˚C min | 39 | IP 170 |
|  | Smoke point, mm, min | 20 | ASTM D 1322 |
|  | Total sulfur, percentage by mass, max | 0.15 | ASTM D1266 |
|  | Ash, wt, %, max. | 0.01 | ASTM D 482 |
|  | Water and suspended matter | Clear and bright | ASTM D 4176 |

### 5 Storage stability

# After storage in the origin containers under normal storage conditions for a period of six (6) months from the date of receipt, products shall still comply with requirements of this standard.6 Packaging

6.1 The condition of the containers, rail tankers and road tank vehicles shall be such as not to be detrimental to the quality of the illuminating kerosene during transportation and storage. The containers shall be acceptably sealed or leak proof, clean and free from materials soluble in illuminating kerosene as applicable.

# 7 Labelling

1. 7.1The following information shall appear in legible and indelible marked on the portable container, or on a label affixed to the portable containername and physical address of the manufacturer or supplier;
2. name of the product as “ Illuminating kerosene” ;
3. batch number;
4. net content;
5. country of origin
6. Flammable material

**7.2** For bulk transportation the above information shall be in the documentation accompanying the product and the respective container shall be marked with;

a. the words “FLAMMABLE MATERIAL”; and

# b) the warning “dangerous goods”8 Sampling

Sampling of illuminating kerosene shall be carried out in accordance with ASTM D4057 or ASTM D4177.

Bibliography

1. KS 1289: 1999, Specification for illuminating kerosene
2. TZ 580: 2017, Illuminating kerosene — Specification
3. US 803: 2021, Kerosene (BIK) — Specification