

Crude tar and crude benzole — Characteristics and test methods

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British Standard

ICS 75.080

National foreword

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English Version

Crude tar and crude benzole - Characteristics and test methods

Goudon brut et benzole brut - Caractéristiques et méthodes
d'essai

Rohteer und Rohbenzol - Eigenschaften und Prüfverfahren

This European Standard was approved by CEN on 1 July 2005.

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Foreword

This European Standard (EN 14639:2005) has been prepared by Technical Committee CEN /TC 317, "Derivatives from coal pyrolysis", the secretariat of which is held by IBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2006, and conflicting national standards shall be withdrawn at the latest by February 2006.

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1 Scope

This European Standard defines the methods of tests for the determination of the characteristics of crude tar and crude benzole.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN ISO 3675, *Crude petroleum and liquid petroleum products - Laboratory determination of density - Hydrometer method (ISO 3675:1998)*

EN ISO 6245, *Petroleum products - Determination of ash (ISO 6245:2001)*

EN ISO 14596, *Petroleum products - Determination of sulfur content - Wavelength-dispersive X-ray fluorescence spectrometry (ISO 14596:1998)*

ISO 760, *Determination of water - Karl Fischer method (General method)*

ISO 3733, *Petroleum products and bituminous materials - Determination of water - Distillation method*

ISO 3924, *Petroleum products - Determination of boiling range distribution - Gas chromatography method*

ISO 6257, *Carbonaceous materials used in the production of aluminium - Pitch for electrodes - Sampling*

ISO 6376, *Carbonaceous materials for the production of aluminium- Pitch for electrodes - Determination of content of toluene-insoluble material*

ISO 6791, *Carbonaceous materials for the production of aluminium - Pitch for electrodes - Determination of contents of quinoline-insoluble material*

3 Characteristics for crude tar

3.1 Water content

3.2 Density 20 °C

3.3 Ash value

3.4 Quinoline-insoluble content

3.5 Toluene-insoluble content

3.6 Sulphur content

3.7 Metal content

4 Characteristics for crude benzole

4.1 Water content

4.2 Density 20°C

4.3 BTEX content

4.4 Sulphur content

5 Specifications

Specifications of the national standardisation organisations shall be used.

The typical values given in Annex A can be used as requirements.

6 Sampling

The method of sampling is described in ISO 6257.

7 Test methods

7.1 Crude tar

Table 1 — Test methods

Characteristic	Test methods
Ash Value	EN ISO 6245
Toluene-insoluble content	ISO 6376
Quinoline-insoluble content	ISO 6791
Water content	ISO 3733 (reference method), ISO 760
Density 20 °C	EN ISO 3675
Metal content	EN ISO 6245 +XRF ^a
Sulphur content	EN ISO 14596
^a XRF = X-Ray Fluorescence, mainly for determination of Fe, Pb, Na, Zn.	

7.2 Crude benzole

Table 2 — Test methods

Characteristic	Test methods
Water content	ISO 3733 (reference method), ISO 760
Density 20 °C	EN ISO 3675
BTEX content	ISO 3924
Sulphur content	EN ISO 14596

Annex A (informative)

Typical values

The typical values in Table A.1 can be used as requirements for the crude tar.

Table A.1 — Typical values of the crude tar

Characteristics	units	Minimum	Maximum	Tests Methods
Ash Value	(m/m)%		0,5	EN ISO 6245
Toluene Insoluble Content	(m/m)%		25	ISO 6376
Quinoline Insoluble Content	(m/m)%		20	ISO 6791
Water Content	(m/m)%		8	ISO 3733, ISO 760 ^a
Density 20°C	g/ml	1,1	1,4	EN ISO 3675
Metal Content	ppm	-	-	EN ISO 6245+XRF
Sulphur Content	(m/m)%		1	EN ISO 14596
^a ISO 760 may be used as alternative.				

The typical values in Table A.2 can be used as requirements for the crude benzole.

Table A.2 — Typical values of the crude benzole

Characteristics	units	Minimum	Maximum	Tests Methods
Water Content	(m/m)%		0,5	ISO 3733; ISO 760 ^a
Density 20°C	g/ml	0,85	0,90	EN ISO 3675
BTEX ^b content	(m/m)%	72		ISO 3924
Sulphur content	(m/m)%		0,5	EN ISO 14596
^a ISO 760 may be used as alternative.				
^b B= benzene, T=Toluene, E=Ethyl-benzene, X= Xylenes				

Annex B (informative)

Warning for use of Crude Tar ¹⁾

B.1 Composition - Data on components

- **Chemical characterization:** Tar, Coal, High Temperature, Coal Tar
- **CAS. N° Designation :** 65996-89-6
- **Identification number (s):** EC n° 266-024-0
- **EINECS Number :**
- **EU Number : 648-082-00-2**
- **Chemical characterization :** Black colour, characteristic smell, not soluble in water, heavier than water
- **Description:** Complex mixture of polynuclear aromatic and heterocyclic hydrocarbons.
- **Dangerous components:** Carc. Cat. 1; R45. May cause cancer,
- **Indication of Danger:** T

B.2 First aid measures

- **General information:**
- **Safety Phrase 45.** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
- **Safety Phrase 53** Avoid exposure - obtain special instructions before use
- **After inhalation:** Consult doctor in case of symptoms.
- **After skin contact:** Instantly wash with water and soap and rinse thoroughly, ask for doctor assistance.
- **After eye contact:** Rinse opened eye for several minutes under running water and ask for doctor assistance.
- **After swallowing:** In case of persistent symptoms consult doctor. In case of swallowing the fumes after a fire of the tar, the effects may not be immediate, therefore the patient has to be under medical survey at least in the next 48 h.

B.3 Handling and storage

- **Handling.**
 - o ID n° 30,
 - o UN n° 1999
- **Information for safe handling:**
 - o Respiratory device, tight spectacles,
 - o Plastic gloves,
 - o Flask of clean water for rinsing the eyes;
 - o Precautions against electrostatic charging.

¹⁾ The latest edition of the publication of the Material Safety Data Sheet of the product applies.

- **Information about protection against explosions and fires:**
 - o Inflammable, may evaporate, vapours may be not visible, vapours are heavier than the air and may diffuse at ground level, with air it may explode mainly in empty and unclean vessels, increase of pressure after warming, possible break of the vessel followed with explosion

- Storage

- Requirements to be met by storerooms and containers:

- o Storeroom adequately ventilated and cool, no ignition point, prevent the accumulation of electrostatic charges, take care that agitation may produce electrostatic charges
- o Containers have to be protected from shocks and have to be tightly closed
- o No smoking and the electric material has to be made according to the regulation
- o Respiratory apparatus should be stored next to the storeroom in case of emergency

- Information about storage in one common storage facility:

- o store apart from other flammable or oxidizing substance

- Further information about storage conditions: None.

B.4 Disposal considerations

- Product:

- European waste catalogue: The waste code classification is to be carried out according to the European Waste Catalogue (EWC) specifically for each branch of industry and each type of process.

- Unclean packaging:

- o **Recommendation :** Disposal should be made according to official regulations.
- o **Recommended cleaning agent:** Water, if necessary with cleaning agent.

B.5 Fire

- Maintain the vessel as cool as possible by spraying water if it is exposed to fire
- Quench the fire with water spray, foam, or chemical powder
- Do not use a water jet!

B.6 Leakages

- Plug the leakage if possible
- Avoid the leakages to the sewer, cellars, ground and trench. The vapours may form an explosive atmosphere
- Embank or absorb the flow with sand, ground, or appropriate material, ask for a consultant
- If the material was flowing to a river or to the sewer or on the soil or vegetation, warn the police

B.7 Immediate actions in case of urgency: only for road transport

- ADR Class n°3
- Warn the police and the firemen
- Stop the motor

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- No open fire. No smoking
- Warn by road signals the other drivers
- Prevent human attendance on the zone of danger
- Stay at wind side

Annex C (informative)

Warning for use of Crude Benzole²⁾

C.1 Composition - Data on components

- **Chemical characterization:** Light oil (coal), coke –oven crude benzole
- **CAS. N° Designation :** 65996-78-3
- **Identification number (s):** EC 266-012-5
- **EINECS Number:** -
- **EU Number:** 648-147-00-5
- **Chemical characterization:** light coloured and characteristic smell, not soluble in water, lighter than water
- **Description:** Composed primarily of benzene, toluene and xylenes. May contain other minor hydrocarbon constituents.
- **Dangerous components:** aromatic hydrocarbons, Carc. Cat. 2; R45. May cause cancer, R11 Flammable
- **Indication of Danger:** T

C.2 First aid measures

- **General information:**
 - o Ask for medical emergency and may need intensive medical care
 - o The substance absorbed by the skin or inhalation is poisoning
 - o The vapours may have a narcotic effect
- **Safety Phrase 45.** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
- **Safety Phrase 53** Avoid exposure - obtain special instructions before use
- **After inhalation:** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact:** Remove the clothes. Instantly wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Do not induce vomiting. If the victim is conscious, absorb medical activated carbon. In any case ask for emergency medical assistance.

C.3 Handling and storage

- **Handling.**
- **ID N° 33**
- **UN N° 1114**
- **Information for safe handling:**
 - o Respiratory device, tight spectacles,

²⁾ The latest edition of the publication of the Material Safety Data Sheet of the product applies.

- Plastic gloves,
- Flask of clean water for rinsing the eyes;
- Precautions against electrostatic charging. Take care that agitation may produce electrostatic charges

- Information about protection against explosions and fires:

- Very flammable, volatile. Vapours may be not visible. Vapours are heavier than the air and may diffuse at ground level, with air it may explode mainly in empty and unclean vessels. Increase of pressure after warming, possible break of the vessel followed with explosion

- Storage: inflammable basement. The basement should be designed to collect the spillages or leakages. Follow the local regulations.

- Requirements to be met by storerooms and containers:

- Storeroom adequately ventilated and cool, no ignition point, prevent the accumulation of electrostatic charges, take care that agitation may produce electrostatic charges
- Containers have to be protected from shocks and have to be tightly closed
- No smoking and the electric material has to be made according to the regulation
- Respiratory apparatus should be stored next to the storeroom in case of emergency

- Information about storage in one common storage facility:

- Store apart from other flammable or oxidizing substance

- Further information about storage conditions: None.

C.4 Disposal considerations

- Product:

- European waste catalogue: The waste code classification is to be carried out according to the European Waste Catalogue (EWC) specifically for each branch of industry and each type of process.

- Unclean packaging:

- **Recommendation:** Disposal should be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

C.5 Fire

- Maintain the vessel as cool as possible by spraying water if it is exposed to fire
- Quench the fire with water spray, foam, chemical powder, halogen material
- Do not use a water jet!

C.6 Leakages

- Plug the leakage if possible
- Avoid the leakages to the sewer, cellars, ground, trench. The vapours may form an explosive atmosphere
- Embank or absorb the flow with sand, ground, or appropriate material, ask for a consultant
- If the material was flowing to a river or to the sewer or on the soil or vegetation, warn the police

C.7 Immediate actions in case of urgency: only for road transport

- ADR Class n°3
- Warn the police and the firemen
- Stop the motor
- No open fire. No smoking
- Warn by road signals the other drivers
- Prevent human attendance on the zone of danger
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