

# Specification for high octane (super) unleaded petrol (gasoline) for motor vehicles

ICS 75.160.20

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- Association of United Kingdom Oil Independents
- Automobile Association
- Chemical Industries Association
- Confederation of Passenger Transport
- Consumer Policy Committee of BSI
- Department of the Environment, Transport and the Regions (Central Transport Group)
- Department of Trade and Industry (Oil and Gas Division)
- Federation of British Historic Vehicle Clubs
- Federation of Petroleum Suppliers
- Freight Transport Association
- Institute of Petroleum
- Institute of Road Transport Engineers
- Institute of Trading Standards Administration
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- Motor Cycle Industry Association Ltd.
- National Farmers' Union
- Petrol Pump Manufacturers' Association
- Petrol Retailers' Association
- Road Haulage Association Ltd.
- Royal Automobile Club
- Society of Motor Manufacturers and Traders Limited
- United Kingdom Petroleum Industry Association Ltd.
- World Wide Fund for Nature

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# Contents

|                                                                             | Page               |
|-----------------------------------------------------------------------------|--------------------|
| Committees responsible                                                      | Inside front cover |
| Foreword                                                                    | ii                 |
| <b>Specification</b>                                                        |                    |
| 1 Scope                                                                     | 1                  |
| 2 Normative references                                                      | 1                  |
| 3 Sampling                                                                  | 1                  |
| 4 Composition                                                               | 2                  |
| 5 Characteristics                                                           | 3                  |
| 6 Precision and interpretation of test results                              | 3                  |
| 7 Marking and labelling                                                     | 3                  |
| <b>Annex</b>                                                                |                    |
| A (normative) Seasonal volatility characteristics                           | 5                  |
| <b>Figures</b>                                                              |                    |
| 1 Form of mark for high octane unleaded petrol                              | 4                  |
| A.1 Relationship between ASVP, E70 and VL1 for the summer and winter grades | 5                  |
| <b>Tables</b>                                                               |                    |
| 1 Requirements for oxygenate components                                     | 3                  |
| 2 General requirements for high octane unleaded petrol                      | 4                  |
| A.1 Seasonal volatility characteristics                                     | 5                  |
| A.2 Volatility requirements                                                 | 6                  |

# Foreword

This British Standard has been prepared under the direction of Technical Committee PTI/2, Liquid fuels. This revision supersedes BS 7800:1992 which is withdrawn.

In preparing this revision the Technical Committee recognized that since the 1992 edition was prepared a grade of high octane unleaded petrol containing valve seat recession protection additives has become commercially available. That grade is not included in this British Standard.

The Technical Committee is preparing a separate British Standard specification for high octane unleaded petrol containing valve seat recession protection additives.

The first edition of this British Standard was prepared to provide a specification for the quality of high octane unleaded petrol<sup>1)</sup> and was also consistent with the provisions of EEC Directive 85/210/EEC [1] of 20 March 1985 concerning the lead and benzene contents of petrol. The quality of leaded petrol is specified in BS 4040, and of “premium” and “regular” grades of unleaded petrol in BS EN 228. The lead and benzene contents of these fuels are also covered by the same EEC Directive.

The first edition of this standard was published at the request of the Department of Transport to enable oil companies who wished to market a grade of unleaded petrol with a higher octane rating than that defined as “premium” in BS EN 228 to identify such fuels as separate from the “premium” unleaded grade. In this British Standard, provision is made for a high octane grade of unleaded petrol with a minimum research octane number (RON) of 98 and for uniform marking.

This standard specifies maximum lead and benzene contents, minimum values for research octane number (RON) and motor octane number (MON), and defines limiting requirements for other essential properties. It also incorporates recommendations for volatility levels appropriate to seasonal temperature variations in the UK for petrol supplied to and sold from filling stations, in line with those recommended for petrol in BS EN 228.

The fuels covered by this standard are intended for use in petrol-engined road vehicles which require high octane unleaded petrol.

The principal changes from the 1992 edition in this revision are as follows:

- (a) it incorporates requirements for volatility levels appropriate to seasonal temperature variations in the UK for petrol supplied to and sold from filling stations, in accordance with those for petrol in BS EN 228;
- (b) the limit for sulfur is reduced from 0.2 % (*m/m*) to 0.05 % (*m/m*);
- (c) valve seat protection additives should not be included;
- (d) the method of determining vapour pressure has been changed from the Reid method given in BS 2000 : Part 69<sup>2)</sup> to the air saturated method given in BS 2000 : Part 394.

**NOTE** When laboratory testing petrol for conformance with the requirements of clause 4 of this British Standard it is necessary to use equipment and procedures exactly as laid down in the appropriate test methods. In particular it is essential to use properly inspected and maintained standard Co-operative Fuel Research Committee (CFR) engines for the determination of both (RON) and (MON). A useful guide to the satisfactory operation and test precision of a CFR engine can be obtained by including it in the Engine Test Correlation Programme of the Institute of Petroleum. Details of this programme are available from the Institute of Petroleum or the British Standards Institution.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 6, an inside back cover and a back cover.

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<sup>1)</sup> The term “petrol” is used in this British Standard as being that most generally used by motorists in the UK: “gasoline” and “motor spirit” are alternatives.

<sup>2)</sup> Withdrawn.