
INTERNATIONAL STANDARD



3839

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Petroleum distillates and commercial aliphatic olefins — Determination of bromine number — Electrometric method

Distillats du pétrole et oléfines aliphatiques commerciales — Détermination de l'indice de brome — Méthode électrométrique

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3839 was developed by Technical Committee ISO/TC 28, *Petroleum products*, and was circulated to the member bodies in August 1975.

It has been approved by the member bodies of the following countries :

Australia	Germany	Poland
Austria	Hungary	Portugal
Belgium	India	Romania
Brazil	Iran	South Africa, Rep. of
Bulgaria	Israel	Spain
Canada	Italy	Sweden
Czechoslovakia	Japan	Turkey
Egypt, Arab Rep. of	Mexico	U.S.A.
France	Netherlands	U.S.S.R.

No member body expressed disapproval of the document.

Petroleum distillates and commercial aliphatic olefins — Determination of bromine number — Electrometric method

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the bromine number of the following materials:

a) Petroleum distillates that are substantially free of material lighter than isobutane and that have 90 % distillation points under 330 °C. The method is generally applicable to gasoline (including leaded fuels), kerosine, and distillates in the gas oil range that fall in the following limits, but not when blending agents such as alcohols, ketones, ethers, or amines are present:

90 % Recovery distillation temperature ISO 3405	Bromine number, max. (see the note)
Under 205 °C	100
205 to 330 °C	10

b) Commercial olefins that are essentially mixtures of aliphatic mono-olefins and that fall within the range of 95 to 165 bromine number (see the note). The method has been found suitable for such materials as commercial propylene trimer and tetramer, butene dimer, and mixed nonenes, octenes, and heptenes. The method is not satisfactory for normal alpha-olefins.

NOTE — These limits are imposed since the precision of the method has been determined only up to or within the range of these bromine numbers.

The value of the bromine number is an indication of the quantity of bromine-reactive constituents, not an identification of constituents; therefore, its use as a measure of olefinic unsaturation should not be made without a study of table 3 — Reported behaviour of compounds by the electrometric bromine number method (see annex).

2 REFERENCE

ISO 3405, *Petroleum products — Determination of distillation characteristics*.

3 DEFINITION

bromine number: The mass, in grams, of bromine which will combine with 100 g of the sample under standardized conditions. It is used as an indication of the degree of unsaturation.