

POUCHER'S

Perfumes, Cosmetics and Soaps

VOLUME 1
**The Raw Materials
of Perfumery**

NINTH EDITION

W.A. Poucher

Edited and revised by A.J. Jouhar



CHAPMAN & HALL

872
0260651
Poucher's Perfumes, Cosmetics and Soaps –
Volume 1

The Raw Materials of Perfumery

Ninth edition

W.A. Poucher

Edited and revised by A.J. Jouhar

Chief Executive

Information Transfer International



E9260651



CHAPMAN & HALL

London · New York · Tokyo · Melbourne · Madras

Published by Chapman & Hall, 2-6 Boundary Row, London SE1 8HN

Chapman & Hall, 2-6 Boundary Row, London SE1 8HN, UK

Chapman & Hall, 29 West 35th Street, New York NY10001, USA

Chapman & Hall Japan, Thomson Publishing Japan, Hirakawacho
Nemoto Building, 7F, 1-7-11 Hirakawa-cho, Chiyoda-ku, Tokyo 102, Japan

Chapman & Hall Australia, Thomas Nelson Australia, 102 Dodds Street,
South Melbourne, Victoria 3205, Australia

Chapman & Hall India, R. Seshadri, 32 Second Main Road, CIT East,
Madras 600 035, India

First edition 1923

Ninth edition 1991

© 1991 Chapman & Hall

Typeset in 10/11 Sabon by Thomson Press (India) Ltd, New Delhi

Printed in Great Britain by T.J. Press (Padstow) Ltd, Padstow, Cornwall

ISBN 0 412 27340 3

Apart from any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the UK Copyright Designs and Patents Act, 1988, this publication may not be reproduced, stored, or transmitted, in any form or by any means, without the prior permission in writing of the publishers, or in the case of reprographic reproduction only in accordance with the terms of the licences issued by the Copyright Licensing Agency in the UK, or in accordance with the terms of licences issued by the appropriate Reproduction Rights Organization outside the UK. Enquiries concerning reproduction outside the terms stated here should be sent to the publishers at the London address printed on this page.

The publisher makes no representation, express or implied, with regard to the accuracy of the information contained in this book and cannot accept any legal responsibility or liability for any errors or omissions that may be made.

A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication data

Poucher, W.A. (William Arthur)

The raw materials of perfumery / W.A. Poucher; edited and revised
by A.J. Jouhar.—9th ed.

p. cm.—(Poucher's perfumes, cosmetics, and soaps; v. 1)

ISBN 0-412-27340-3

1. Perfumes—Dictionaries. I. Jouhar, A.J. (Akbar Jan)

II. Title. III. Series: Poucher, W.A. (William Arthur). Perfumes,
cosmetics, and soaps; v. 1.


TP983.P723 vol. 1 1991

668'.5s—dc19

[668'.54'0321]

88-25755

CIP

 Printed on permanent acid-free text paper, manufactured in accordance
with the proposed ANSI/NISO Z 39.48-199X and ANSI Z 39.48-1984

Poucher's Perfumes, Cosmetics and Soaps –
Volume 1
The Raw Materials of Perfumery

Preface

This classic work by Poucher, first published in 1923, was last produced in three volumes titled, respectively *The Raw Materials of Perfumery* (seventh edition, 1974), *The Production, Manufacture and Application of Perfumes* (eighth edition, 1974) and *Modern Cosmetics* (eighth edition, 1974). Its popularity is well demonstrated by there having been three reprints of these editions in 1976, 1979 and 1984, respectively.

The history of events can be traced by reference to the prefaces to earlier editions and those interested should study these with care since they give a fascinating insight into developments in the subject fields covered by *Poucher's Perfumes, Cosmetics and Soaps* over the years. It is not proposed to provide a resumé here.

In this Volume I, the current edition attempts to provide data about raw materials in a more formalized way than before, so that not only the history of some compounds can be checked, but also so that useful reference information can be obtained. It is particularly relevant to do this, since it is not always easy to be certain of nomenclature. Moreover, as we move towards 'ingredient labelling' (a trend not welcomed by some), a high level of uniformity will be needed. Whether this will come from adoption of CTFA terminology, use of CAS numbers or some other system is not clear. Where possible, such data have been included so that readers may identify materials more readily. Where given, CAS numbers are located in the top right-hand corner of each entry.

For many of the compounds listed several alternative names are in use, some of which from the chemist's point of view are either inadequate, ambiguous or occasionally actually misleading. In this edition the compounds have been listed under names which are considered to be chemically satisfactory and which, at the same time, should be reasonably familiar to perfumers; they do not necessarily contain full information as to the structure of the compounds and they make free use of widely accepted trivial names. In most of the entries this is associated with a systematic name which defines the chemical structure, while synonyms which are in use, though sometimes chemically unsatisfactory, also are listed.

Prefixes denoting structural features such as *n-*, *iso*, *cis-*, *trans-*, *o-*, *m-*, *p-* etc. are disregarded in the alphabetical listing. Where appropriate, however, a second entry may be made in the alphabetical position corresponding to the prefix with a cross-reference to the main entry. Prefixes denoting number (for which Greek-derived *mono-*, *di-*, *tri-*, etc. are used rather than their Latin equivalents) are, on the other hand, regarded as forming an integral part of the word and are thus of alphabetical significance. Subsidiary entries with cross-references are made where this is useful.

The systematic naming follows established chemical practice but as this is not completely uniform the following is a brief account of the principles adopted.

Acyclic compounds are usually named as derivatives of the longest unbranched hydrocarbon chain contained within their structure. The carbon atoms in the chain are numbered from one end; if one of the terminal atoms carries a functional group, this is usually designated '1'. The positions of functional groups and other structural

features are indicated by the appropriate numeral immediately preceding the verbal element which designates it; thus, *iso*-propanol is named 'propan-2-ol' rather than '2-propanol' or 'propanol-2'. In the case of double and triple bonds, denoted by the elements '-en-' and '-yn-', the lower number of the pair of carbon atoms between which the bond exists is used. The names of normal carboxylic acids are derived from those of the normal hydrocarbons having the same number of carbon atoms by replacing the final 'e' by '-oic acid', e.g. 'n-pentanoic acid' (=n-valeric acid); exceptions are acetic and formic acids. In carboxylic acids and aldehydes, the carbonyl carbon is assigned the numeral '1', e.g. lactic acid becomes '2-hydroxypropanoic acid'.

In disubstituted benzene derivatives, the familiar prefixes *o*-, *m*- and *p*- are used to indicate the relative positions of the substituents; with three or more substituents, however, numbers are used to avoid ambiguity. In polycyclic and heterocyclic compounds, the rings are numbered according to current Chemical Abstracts practice.

Melting and boiling points are given in degrees Centigrade. Unless otherwise specified, the boiling points are at atmospheric pressure (760 mmHg); for those determined at other pressures the latter are given in mmHg.

It must be noted that neither the editor nor the publishers can be held responsible for any consequences arising from any errors or omissions in this work.

Thanks are due to Mrs Venetia Oakley of Turville Word Processing Services and the staff of Information TRANSFER International for their patient work in formatting and assembling this volume.

A.J. Jouhar

Publisher's note

Poucher's Perfumes, Cosmetics & Soaps was last available in three volumes. Volume 1 was in its seventh edition and volumes 2 and 3 in its eighth edition.

This volume is the first volume of what will be a two volume set comprising together a ninth edition of the work.

All information given in this volume is correct to the best of our knowledge at the time of writing but it is recommended that the reader consults the IFRA guidelines or the RIFM monographs referred to in the text.

Dictionary of the raw materials of perfumery and some cosmetic and toiletry products

Contents

<i>Preface</i>	vi
<i>Publisher's note</i>	vii
Dictionary of the raw materials of perfumery and some cosmetic and toiletry products	1
Appendix: Materials with IFRA guidelines, but not listed in Poucher's	349

ABIR

Appearance	Powder
Odour	Aromatic
Chemical	Contains curcuma, cardamom, cloves, and sandalwood.
Uses	Used by the Hindus.

ABSOLUTES

Colourless absolutes are known as absoluols, S.I.S., and integral essences.

Source	Prepared from flowers, leaves, twigs, roots, barks or resins of living or dead plant material.
NATURAL	
Isolation	The plant material is extracted by petroleum ether or other volatile solvents in a closed apparatus. After placing these in series, the solvent runs through and is then distilled off at low pressure to be used again. The product or concrete, consisting of the perfume together with the natural insoluble wax and pigments, is shaken in a machine together with a strong alcohol and the insoluble wax is separated. After cooling the alcoholic solution to below zero and filtering off any dissolved wax, the perfume is then isolated from the solution by distillation <i>in vacuo</i> at a low temperature. The absolute is left in the retort.
Appearance	Usually coloured or colourless liquids.
Odour	Very fine odours which vary according to the source.
Uses	Fine perfumery.

ACACIA

Source	An extensive genus of trees and shrubs from the Mimosa section of the N.O. Leguminosae.
NATURAL	
Comments	Commercially produced perfumes are based upon the odour of <i>Robinia pseudacacia</i> : they are mixtures of synthetics such as anisic aldehyde, methyl anthranilate, iso-butyl benzoate, and phenylacetic aldehyde.

ACACIA GUM

[9000-01-5]

CTFA name	Acacia Gum senegal, gum arabic.
Source	A plant indigenous to Northern Africa. Obtained from the bark of the tree <i>Acacia senegal</i> , Willd., and other species of N.O. Leguminosae.
GEOGRAPHIC NATURAL	
Isolation	An incision is made into the bark of the tree and the resulting

2 Acetaldehyde phenylethyl-*n*-propylacetal

	exudate hardens on exposure to the air. The best gum is collected in Kordofan.
Appearance	A hard resinous exudate; it occurs in spheroidal tears up to 32 mm in diameter.
Physical	Insoluble in alcohol but almost completely soluble in twice its weight of water. Also soluble in glycerol and propylene glycol. Aqueous solutions are acidic.
Uses	Preparation of liquid kohol.

ACETALDEHYDE PHENYLETHYL-*n*-PROPYLACETAL

	Acetal R $C_{13}H_{20}O_2$
Isolation	From acetaldehyde-dipropylacetal and phenylethyl alcohol.
Appearance	Colourless liquid.
Odour	Powerful and natural leafy-green note.
Uses	Widely used to add natural green or floral effects to a wide range of fragrance types.

ACETANISOLE

[99-93-4]

	<i>p</i> -Methoxyacetophenone $C_9H_{10}O_2$
Appearance	White crystals.
Odour	Fragrance, typical for lilac blossom, with warm, heavy and sweet undertones.
Uses	Soaps, particularly mimosa, fougere and trefle.
Physical	m.p. 36-38 °C, practically insoluble in water, soluble in alcohol and oils. RIFM Monograph (1974) <i>FCT</i> , 12, 927.

ACETATE C_7

[112-06-1]

	Acetic acid, heptyl ester; heptyl ethanoate; <i>n</i> -heptyl acetate; heptanyl acetate $CH_3 \cdot [CH_2]_6 \cdot OCOCH_3$
Source	
NATURAL	Does not occur in nature.
Appearance	A colourless liquid with a slightly floral odour.
Physical	GC RIFM no. 74-3; IRC RIFM no. 74-3.

ACETATE C_{11}

[112-19-6]

	Undecenyl acetate; 10-hendecen-1-yl acetate; 10-hendecenyl acetate; undecenylenic acetate
Chemical Name	10-undecen-1-yl acetate $CH_2:CH \cdot [CH_2]_9 \cdot OCO \cdot CH_3$

Source	
NATURAL	Not found in nature.
Isolation	Esterification of 10-undecen-1-ol with acetic acid.
Physical	GC RIFM no. 74-6; IRC RIFM no. 74-6.

ACETATE C₁₂ [112-66-3]

	Acetic acid, dodecyl ester; dodecanyl acetate; n-dodecyl acetate; lauryl acetate
Isolation	Esterification of lauryl alcohol with acetic acid.

ACETIC ACID [64-19-7]

CTFA name	Acetic acid Ethanoic acid CH ₃ COOH
-----------	--

Source	
NATURAL	Obtained from wood.
CHEMICAL	Produced synthetically from alcohol.
Isolation	Destructive distillation of wood; this produces three fractions: gases, such as methane, which are not condensed; pyroligneous acid; tar, which is the source of creosote. The second fraction contains the acetic acid which may be fixed with lime. Ethyl alcohol may be oxidized into acetic acid by means of an enzyme, <i>Mycoderma aceti</i> , which obtains the necessary oxygen from the atmosphere.
Appearance	Colourless liquid.
Odour	Distinctive pungent odour.
Chemical	Acetic acid generally contains 33% of real acid.

ACETIC ACID, GLACIAL [64-19-7]

	Ethanoic acid CH ₃ COOH
Isolation	Distillation of dried sodium or calcium acetate with sulphuric acid.
Physical	Flammable.
Chemical	The distillate should contain 98.9% weight acetic acid.
Other	The specific gravity rises from 1.058 to 1.075 on the addition of water until the mixture contains 77% acid. Further addition of water lowers the specific gravity. At 46% it has the same specific gravity as the original glaciale and continued dilution causes the specific gravity to decrease.
Uses	Used by perfumers who prefer to dilute it to the strength required.
Comments	May be used in the preparation of smelling salts, and toilet vinegar when it is mixed with various essential oils.

ACETONE

[67-64-1]

Chemical name	2-Propanone
CTFA name	Acetone
	Dimethyl ketone; beta-ketopropane; pyroacetic ether CH_3COCH_3
Appearance	Colourless volatile liquid.
Odour	Characteristic pungent, sweetish taste.
Physical	b.p. 56.3°C , m.p. -94.8°C : highly flammable miscible with water and alcohol, chloroform, ether and most alcohols.
Uses	In the preparation of nail varnishes (useful solvent for celluloid and nitro cotton).
Comments	Prolonged or repeated topical use may cause erythema or dryness.

ACETOPHENONE

[98-86-2]

Chemical name	Methyl phenyl ketone Phenyl methyl ketone; 1-phenylethanone; acetylbenzene; 'hypnone' $\text{C}_8\text{H}_8\text{O}$
Source	
NATURAL	Occurs in the oils of labdanum resin and <i>Stirlingia latifolia</i> .
Appearance	Colourless liquid, solidifying in the cold.
Odour	Pungent-sweet, reminiscent of hawthorn with floral undertones.
Physical	b.p. 202°C , m.p. 21°C , slightly soluble in water but freely soluble in alcohol, chloroform and ether, fatty oils and glycerol.
Uses	In perfumes such as hawthorn, mimosa and foin coupe and in low cost fragrances for soaps, detergents, household and industrial products.
Comments	Blends well with anisic aldehyde, terpeneol, and heliotropin. RIFM Monograph (1973) <i>FCT</i> , 11, 99 and (1973) <i>FCT</i> , 11, 1079.

ACETYL CEDRENE

[68867-57-2]

	Vertofix $\text{C}_{17}\text{H}_{26}\text{O}$
Isolation	Obtained from cedar wood oil by the acetylation of terpenes.
Appearance	Slightly viscous light yellow liquid.
Odour	Warm and woody, reminiscent of cedar and vetiver. RIFM Monograph (1978) <i>FCT</i> , 16, 639.

4-ACETYL-6-TERT-BUTYL-1,1-DIMETHYLINDAN

[3848-24-6]

	4-acetyl-1,1-dimethyl-6-tert-butylindan; celestolide; ethanone, 1-[6-, 1-dimethylethyl-2,3-dihydro-1,1-dimethyl-]H-indane
Source	
NATURAL	does not occur in nature.
Appearance	White crystals.
Physical	GC RIFM no. 72-96; IRC RIFM no. 72-96.

7-ACETYL-1,1,3,4,4,6-HEXAMETHYL-TETRAHYDRO-NAPHTHALENE

[21145-77-7]

	Tonalid C ₁₈ H ₂₆ O
Isolation	Synthesized from dimethyl butene and <i>p</i> -cymene with subsequent acetylation.
Appearance	Colourless to white crystals.
Odour	Sweet and musky-woody.
Physical	b.p. 248 °C, m.p. 46 °C.
Uses	Wide range of applications from toiletries to household products.
Comments	Synthetic tetralin-type musk. RIFM Monograph (1983) <i>FCT</i> , 21, 645.

ALCOHOL C₆

[111-27-3]

	Caproic acid; 1-hexanol; n-hexyl alcohol
Chemical name	Hexan-1-ol CH ₃ ·[CH ₂] ₄ ·CH ₂ OH
Source	
NATURAL	Is a constituent of several essential oils and aromas—especially apple, strawberry, tea, violet and other flowers.
Isolation	Reduction of ethyl caproate with sodium alcoholate.
Physical	GC RIFM no. 74-125; IRC RIFM no. 74-125.

ALCOHOL C₁₀ *See n-DECYL ALCOHOL*ALCOHOL C₁₁

[112-43-6]

	Undecylenic alcohol
Chemical name	10-undecen-1-ol CH ₂ ·CH[CH ₂]·CH ₂ OH
Source	
NATURAL	Found in the leaves of <i>Litsea odorifera</i> .
Isolation	Sodium reduction of undecylenic acid esters.
Physical	GC RIFM no. 71-10; IRC RIFM no. 71-10. RIFM Monograph (1978) <i>FCT</i> , 16, 641.

ALDEHYDE C₆

[111-71-7]

	Caproaldehyde; caproic aldehyde; hexaldehyde; hexoic aldehyde
Chemical name	1-hexanal
Source	
NATURAL	Found in a number of essential oils.
Isolation	Oxidation of n-hexanol.
Appearance	A colourless mobile liquid with a strong fatty odour.
Physical	GC RIFM no. 71-12; IRC RIFM no. 71-12.

ALDEHYDE C₇ See *n*-HEPTANALALDEHYDE C₈ See *n*-OCTYL ALDEHYDEALDEHYDE C₉ See *n*-NONYL ALDEHYDEALDEHYDE C₁₀ See DECYL ALDEHYDEALDEHYDE C₁₁, SATURATED See
UNDECYLIC ALDEHYDEALDEHYDE C₁₁, UNSATURATED See
UNDECYLENIC ALDEHYDE

ALOE-WOOD OILS

[84837-08-1]

	Agar-attar; Oriental lignaloes
History	Was valued by the Egyptians and later by Arabs and Jews in the Middle Ages.
Source	
GEOGRAPHIC	Trees native to Bengal, Burma, Assam and Java.
NATURAL	Distillation of the wood of <i>Aquilaria agallocha</i> .
Odour	Compares with ambergis and sandalwood.

ALLYL AMYL GLYCOLATE

[67634-00-8]

Chemical name	Glycolic acid, 2-pentyloxy allyl ester $C_{10}H_{18}O_3$
Appearance	Colourless liquid.
Odour	Strong, fruity, pineapple with a green galbanum nuance.
Uses	To reinforce modern green and oriental fragrances with strength and tenacity.

ALLYL CAPROATE

[123-68-2]

Chemical name	Allyl hexanoate; hexanoic acid, 2-propenyl ester 2-propenyl hexanoate $CH_2 \cdot CH \cdot CH_2 \cdot OOC[CH_2]_4 \cdot CH_3$
Source	
NATURAL	Does not occur in nature.
Isolation	Esterification of allyl alcohol with caproic acid.
Physical	GC RIFM no. 71-20; IRC RIFM no. 71.20.

ALLYL CAPRYLATE

[4230-97-1]

Allyl octanoate; octanoic acid, 2-propenyl ester; 2-propenyl octanoate; 2-propenyl octylate
 $\text{CH}_2\text{:CH}\cdot\text{CH}_2\cdot\text{OCO}\cdot[\text{CH}_2]_6\cdot\text{CH}_3$

Source

NATURAL

Not thought to occur in nature.

Isolation

Esterification of allyl alcohol with octanoic acid.

Appearance

A colourless oily liquid.

Physical

GC RIFM no. 75-1; IRC RIFM no. 75-1.



ALLYL CYCLOHEXYL ACETATE

[4728-82-9]

Allyl cyclohexaneacetate; allyl cyclohexylacetate; allyl hexahydro-phenylacetate; cyclohexaneacetic acid, 2-propenyl ester; 2-propen-1-yl cyclohexaneacetate.

$\text{C}_6\text{H}_{11}\cdot\text{CH}_2\cdot\text{OCO}\cdot\text{CH}_2\cdot\text{CH}\text{:CH}_2$

Source

NATURAL

Does not occur in nature.

Chemical

Esterification of allyl alcohol with cyclohexaneacetic acid.

Appearance

A colourless liquid.

Physical

GC RIFM no. 74-276; IRC RIFM no. 74-276.

ALLYL CYCLOHEXYL PROPIONATE

[2705-87-5]

Chemical name Allyl-3-cyclohexyl propionate

$\text{C}_{12}\text{H}_{20}\text{O}_2$

Isolation

By direct esterification of allyl alcohol with cyclohexanepropionic acid.

Appearance

Colourless, slightly oily liquid.

Odour

Powerful, sweet-fruity, resembling pineapple.

Uses

As a topnote ingredient for fruity and fruity-floral compositions and in combination with citrus notes to provide a fruity characteristic to the fragrance.

RIFM Monograph (1973) *FCT*, 11 491 and (1973) *FCT*, 11, 1081 (Binder, p. 66).

ALLYL IONONE

[79-78-7]

Chemical name alpha-Allyl ionone

Hexalon, Cetone V

$\text{C}_{16}\text{H}_{24}\text{O}$

Isolation

By citral condensation with allyl acetone followed by cyclization.

Appearance

Pale yellow oily liquid.

Odour

Peculiar oily-sweet, slightly sweet-nutty and woody character.

Physical

b.p. approx. 265 °C.

Uses	In combination with other ionones in modern aldehydic creations and in fragrances with fruity-aldehydic topnotes.
Comments	Its odour tends to change with ageing, particularly under poor storage conditions. RIFM Monograph (Allyl alpha-ionone) (1973) <i>FCT</i> , 11 , 493 and <i>FCT</i> , 11 , 1081 (Binder, p. 67).

ALLYL PHENOXYACETATE

[7493-74-5]

	Acetate PA; acetic acid, phenoxy, 2-propenyl ester; 2-propenyl phenoxyacetate $\text{CH}_2\text{:CH}\cdot\text{CH}_2\cdot\text{OCO}\cdot\text{CH}_2\cdot\text{O}\cdot\text{C}_6\text{H}_5$
Source	
NATURAL	Does not occur in nature.
Isolation	Esterification of allyl alcohol with phenoxyacetic acid.
Physical	GC RIFM no. 74-19; IRC RIFM no. 74-19.

ALUMINIUM NAPHTHOSULPHONATE

[1300-81-8]

Chemical name	Aluminium beta-naphthodisulphonate 2-hydroxynaphthalenedisulphonic acid aluminium salt $\text{Al}_2(\text{C}_{10}\text{H}_5(\text{OH})(\text{SO}_3)_2)_3$
Source	
CHEMICAL	Prepared from barium beta-naphthodisulphonate and aluminium sulphate.
Appearance	Fine almost white powder.
Physical	Soluble in water and glycerol; practically insoluble in ether.
Uses	Has a mild antiseptic and astringent action and has been used as a deodorant.

AMBERGRIS (TINCTURE)

[8038-65-1]

History	One of the most valuable materials used by the perfumer, prized for many centuries for its curious perfume and reputed aphrodisiac properties, and thought at one time to be the excrement of a bird, a form of congealed gum or bitumen or even a marine fungus.
Source	
GEOGRAPHIC	Collected from the shores of Australia, New Zealand and the Indian Ocean.
NATURAL	Pathological growth formed in the stomach of male sperm whales (<i>Physeter macrocephalus</i> /catadon) when it is feeding on squid or cuttle fish and is caused by the irritation of indigestible beaks in the whale's stomach. It is found either in the stomach or lodged in the bowel, although the most common source has traditionally been as collected flotsam rather than the slaughter of whales.

Isolation	Ambergris is powdered and 30 g are added to 1 l of alcohol. The solution is agitated continuously for several days at 25–30 °C and then occasionally for as long as maturing can be afforded. A few days before use it is filtered.
Appearance	Ten different and distinct types of ambergris exist and the colours range from pure white, silver grey (from New Zealand), golden (from the North African coast), golden grey (from the Gulf of Aden), pale yellow (from Australia), dark grey with golden striations, black with some golden streaks inside (from the Azores), hard black (from all parts of the world), dry and dark grey (from the Persian Gulf), and dark reddish-brown (from Madagascar). The best quality is light grey.
Odour	Varies and, although characteristic is difficult to define, has been described as 'musky', 'musty', 'earthy', and reminiscent of the sea.
Physical	True ambergris has a specific gravity between 0.780 and 0.920 and softens about 60 °C. It liquefies at higher temperatures and is melted by boiling water. It is flammable, and soluble in ether and certain volatile and fixed oils.
Chemical	The three major components are the triterpene alcohol ambrein, epicoprostanol and coprostanone.
Other	A hot needle should enter the mass easily, without sticking, and a characteristic odour is given off. An amber-coloured molten drop should appear on removing the point. Of the four animal extracts it has the least animal character. It has the longest duration of evaporation.
Uses	Ambergris extract is confined exclusively to the preparation of expensive perfume oils.
Comments	Substitutes are often used as genuine ambergris is difficult to obtain. RIFM Monograph (1976) <i>FCT</i> , 14, 675.

AMBRETTE SEED OIL AND ABSOLUTE

[8015–62–1]

	Ambrette oil
Source	<i>Hibiscus abelmoschus</i> , L. (musk seed), N. O. Malvaceae (mallow family).
GEOGRAPHIC	Central and South America, Indonesia and India.
Isolation	The essential oil is obtained from the dried and powdered seeds by steam distillation; fatty acids can be removed by solvent extraction (usually alcohol) to give the so-called absolute.
Yield	0.3–0.5% depending upon source of the plant material.
Appearance	Liquid.
Odour	Musky, aromatic, very persistent, with a distinct cognac note.
Chemical	Sesquiterpene alcohol farnesol has been identified as a constituent.
Uses	Exalting agent in expensive, fine fragrances. RIFM Monograph (Ambrette seed oil; <i>Hibiscus abelmoschus</i>) (1975) <i>FCT</i> , 13, 705.