

WATER

detection (d) and recognition (r) odour threshold values in mg/kg

A

abhexone⇒5-ETHYL-3-HYDROXY-4-METHYL-2(5H)-FURANONE

ACENAPHTHENE [83-32-9]

Lillard & Powers (1975) d 0.08

acetal⇒1,1-DIETHOXYETHANE

acetaldehyde⇒ETHANAL

acetaldehyde diethyl acetal ⇒1,1-DIETHOXYETHANE

ACETIC ACID (ethanoic acid) [64-19-7]

Ohrwall (1891)	r	60
Baker (1963)		24.3
Amoore <i>et al.</i> (1968); Amoore (1969)	d	30.7
Zoeteman <i>et al.</i> (1971)		200
Manning & Robinson (1973)		100
Kikuchi <i>et al.</i> (1976)		34.2
Aharoni <i>et al.</i> (1980)		200
Schnabel <i>et al.</i> (1988)	d	210 - 522
Larsen & Poll (1990)	d	100 - 1,000
Larsen & Poll (1992)	d	10 - 100
Grosch <i>et al.</i> (1993)		60
Guth (1996)		22
Buttery & Ling (1998)	d	22
Tamura <i>et al.</i> (2001); Boonbumrung <i>et al.</i> (2001)	d	25.59 - 26
Darriet <i>et al.</i> (2002)	d	50
Karagül-Yüceer <i>et al.</i> (2003)	d	22
Czerny <i>et al.</i> (2007c); Czerny <i>et al.</i> (2008)	r	180
Czerny <i>et al.</i> (2008)	d	99

acetoin⇒3-HYDROXY-2-BUTANONE

acetol ⇒HYDROXYPROPANONE

acetone⇒PROPANONE

1-ACETONYLPYRROLE (1-(1-pyrrolyl)-2-propanone) [4805-24-7]Tressl *et al.* (1985b) d 0.1**ACETOPHENONE [98-86-2]**

Rosen <i>et al.</i> (1963)		0.065
Baker (1963)		0.17
Pyysalo <i>et al.</i> (1977)	d	0.052
Aoki & Koizumi (1986)		0.036
Buttery <i>et al.</i> (1988a); Buttery & Ling (1995)	d	0.065
Schirack <i>et al.</i> (2006)	d	0.245
Pino & Mesa (2006)	d	0.065

acetovanillone⇒1-(4-HYDROXY-3-METHOXYPHENYL)ETHANONE

4-ACETYL-6-tert-BUTYL-1,1-DIMETHYLINDANE (celestolide) [13171-00-1]Amoore *et al.* (1977) d 0.0050

2-acetyl-3,4-dihydro-2H-azole⇒2-ACETYL-1-PYRROLINE

5-ACETYL-2,3-DIHYDRO-1,4-THIAZINE [164524-93-0]

Hofmann & Schieberle (1995); Schieberle & Hofmann (1996a, 1996b)		0.00125 - 0.0017
Buttery (1999)	d	0.000 6

2-ACETYLFURAN [1192-62-7]Buttery *et al.* (1990a,1994a); Buttery (1993);

WATER detection (d) and recognition (r) odour threshold values in mg/kg

Buttery & Ling (1995,1998)	d	10
Giri <i>et al.</i> (2010)	d	15.02520
7-ACETYL-1,1,3,4,4,6-HEXAMETHYL-1,2,3,4-TETRAHYDRONAPHTHALENE (fixolide, tonalide) [1506-02-1]		
Amoore <i>et al.</i> (1977)	d	0.001 5
(-)-(2R,4S)-2-acetyl- <i>p</i> -menth-6-ene⇒(-)-1-[(1R,5S)-5-ISOPROPYL-2-METHYLCYCLOHEX-EN-1-YL]ETHANONE (+)-(2S,4R)-2-acetyl- <i>p</i> -menth-6-ene⇒(+)-1-[(1S,5R)-5-ISOPROPYL-2-METHYLCYCLOHEX-EN-1-YL]ETHANONE		
1-ACETYL-4-METHYLBENZENE (methyl acetophenone) [122-00-9]		
Appell (1969)		0.16
Buttery <i>et al.</i> (1976b)	d	0.019
Masanetz & Grosch (1998a, 1998b)		0.024
Boonbumrung <i>et al.</i> (2001)	d	0.021
2-ACETYL-3-METHYLPYRAZINE [23787-80-6]		
Mihara & Masuda (1988)	d	0.02
2-ACETYL-5-METHYLPYRAZINE [22047-27-4]		
Mihara & Masuda (1988)	d	0.4
Buttery <i>et al.</i> (1999); Buttery (1999)	d	3
2-ACETYL-6-METHYLPYRAZINE [22047-26-3]		
Mihara & Masuda (1988)	d	0.3
Buttery (1999)	d	3
ACETILPYRAZINE [22047-25-2]		
Teranishi <i>et al.</i> (1975); Buttery (1981,1999)	d	0.06 - 0.062
2-ACETILPYRIDINE [1122-62-9]		
Teranishi <i>et al.</i> (1975); Buttery (1981,1999); Buttery & Ling (1998)	d	0.019
2-ACETILPYRROLE [1072-83-9]		
Teranishi <i>et al.</i> (1987); Buttery <i>et al.</i> (1988a,1994a, 1999); Buttery & Ling (1998); Buttery (1999)	d	170
Giri <i>et al.</i> (2010)	d	58.58525
2-ACETYL-1-PYRROLINE (2-acetyl-3,4-dihydro-2 <i>H</i> -azole) [85213-22-5]		
Buttery <i>et al.</i> (1982a,1983,1988a,1994a,1997,1999); Buttery (1993,1999); Buttery & Ling (1995,1998)	d	0.000 1
Czerny <i>et al.</i> (2007)		0.000 1
Czerny <i>et al.</i> (2008)	d	0.000 053
Czerny <i>et al.</i> (2008)	r	0.000 12
2-ACETYL-1,4,5,6-TETRAHYDROPYRIDINE [25343-57-1]		
Teranishi <i>et al.</i> (1975); Buttery (1981,1999); Buttery & Ling (1995,1998); Buttery <i>et al.</i> (1997,1999)	d	0.001 - 0.002
2-ACETYL-3,4,5,6-TETRAHYDROPYRIDINE [27300-27-2]		
Buttery & Ling (1995,1998); Buttery <i>et al.</i> (1997, 1999); Buttery (1999)	d	0.001 – 0.002
6-ACETYL-1,2,3,4/2,3,4,5-TETRAHYDROPYRIDINE		
Belitz & Grosch (1992a)		0.0016
2-ACETYLTHIAZOLE [24295-03-2]		
Teranishi & Buttery (1985); Buttery <i>et al.</i> (1994a,1999) ; Buttery (1999)	d	0.01

WATER detection (d) and recognition (r) odour threshold values in mg/kg

Marchand <i>et al.</i> (2000)	d	0.003
4-ACETYLTHIAZOLE		
Teranishi <i>et al.</i> (1975)	d	0.17
2-ACETYL-2-THIAZOLINE [29926-41-8]		
Teranishi <i>et al.</i> (1975); Buttery (1981,1999); Buttery <i>et al.</i> (1994a)	d	0.001 - 0.0013
Cerny & Grosch (1993); Grosch <i>et al.</i> (1993); Guth & Grosch (1994); Schieberle & Hofmann (1996a, 1996b)		0.001
Karagül-Yüceer <i>et al.</i> (2004)	d	0.001
Limpawattana (2007)	d	0.000 12
3-(ACETYLTHIO)-2-BUTYLOCTANAL		
Robert <i>et al.</i> (2004, 2005)	d	0.2
3-(ACETYLTHIO)-2-ETHYLHEXANAL		
Robert <i>et al.</i> (2004, 2005)	d	0.015
3-(ACETYLTHIO)-2-METHYLPENTANAL		
Robert <i>et al.</i> (2004, 2005)	d	0.005
3-(ACETYLTHIO)-2-PENTYLNONANAL		
Robert <i>et al.</i> (2004, 2005)	d	0.5
3-(ACETYLTHIO)-2-PROPYLHEPTANAL		
Robert <i>et al.</i> (2004, 2005)	d	0.05
acrolein⇒2-PROPENAL		
acrylic acid⇒PROPENOIC ACID		
acrylonitrile⇒ETHENYL CYANIDE		
active amyl acetate⇒2-METHYLBUTYL ACETATE		
active amyl alcohol⇒2-METHYL-1-BUTANOL		
aldehyde C14⇒TETRADECANAL		
aldehyde C16⇒ETHYL 3-METHYL-3-PHENYL-2,3-EPOXYPROPANOATE		
aldrin⇒1,2,3,4,10,10-HEXACHLORO-1,4,4a,5,8,8a-HEXAHYDRO-1,4-endo-exo-5,8-DIMETHANONAPHTHALENE		
allyl chloride⇒3-CHLOROPROPENE		
4-ALLYL-1,2-DIMETHOXYBENZENE (methyleugenol, eugenol methyl ether, 4-allylveratrole) [93-15-2]		
Buttery <i>et al.</i> (1974); Takeoka (2001)	d	0.068
Pyysalo <i>et al.</i> (1977)	d	0.82
Sugisawa <i>et al.</i> (1991); Yang <i>et al.</i> (1992); Tamura <i>et al.</i> (1993)	d	0.775 - 8.5
ALLYL ISOTHIOCYANATE (allyl mustard oil) [57-06-7]		
Kauffmann (1907)		3.8
Buttery <i>et al.</i> (1976b); Buttery (1993)	d	0.375
Masuda <i>et al.</i> (1996)		0.046
1-ALLYL-4-METHOXYBENZENE (estragole, methylchavicol) [140-67-0]		
Williams <i>et al.</i> (1977)	d	0.035
Zeller & Rychlik (2006)	r	0.016
Czerny <i>et al.</i> (2008)	d	0.006
Czerny <i>et al.</i> (2008)	r	0.016
5-ALLYL-1-METHOXY-2,3-(METHYLENEDIOXY)BENZENE (myristicin) [607-91-0]		
Buttery <i>et al.</i> (1968)	d	0.025
Blank <i>et al.</i> (1992)		0.03
Zeller & Rychlik (2006)	r	0.088
4-ALLYL-2-METHOXYPHENOL (eugenol) [97-53-0]		

WATER detection (d) and recognition (r) odour threshold values in mg/kg

Appell (1969)		0.06
Buttery <i>et al.</i> (1971,1974,1987b,1990a); Buttery (1981,1993); Takeoka (2001)	d	0.006 - 0,011
Pyysalo <i>et al.</i> (1977)	d	0.030
Dietz & Traud (1978)		0.04
Sugisawa <i>et al.</i> (1991); Yang <i>et al.</i> (1992); Tamura <i>et al.</i> (1993)	d	0.1
Blank <i>et al.</i> (1992)		0.15
Bonfils <i>et al.</i> (2004)	d	0.47
Pino & Mesa (2006)	d	0.006
Zeller & Rychlik (2006)	r	0.0025
Czerny <i>et al.</i> (2008)	d	0.000 71
Czerny <i>et al.</i> (2008)	r	0.0025

4-ALLYL-1,2-(METHYLENEDIOXY)BENZENE (safrole) [94-59-7]

Helbig (1939)		0.0407
Le Magnen (1952)		0.01 - 0.033
Appell (1969)		0.16

allyl mustard oil⇒ALLYL ISOTHIOCYANATE

2-(ALLYLTHIO)ETHANAL

Rössner <i>et al.</i> (2002)		0.000 2
------------------------------	--	---------

4-allylveratrole⇒4-ALLYL-1,2-DIMETHOXYBENZENE

ambrox⇒(3aR)-3a,6,6,9a-TETRAMETHYL-3aα,5aβ,9aα,9bβ-DODECAHYDRONAPHTHO[2,1-b]FURAN
(d)-ambrox⇒(+)-(3aR)-3a,6,6,9a-TETRAMETHYL-3aα,5aβ,9aα,9bβ-DODECAHYDRONAPHTHO[2,1-b]FURAN
(l)-ambrox⇒(-)-(3aS)-3a,6,6,9a-TETRAMETHYL-3aα,5aβ,9aα,9bβ-DODECAHYDRONAPHTHO[2,1-b]FURAN
5β-ambrox⇒3aβ,6,6,9aβ-TETRAMETHYL-1,2,3a,4,5,5aβ,6,7,8,9a,9bβ-DODECAHYDRONAPHTHO[2,1-b]FURAN

2'-AMINOACETOPHENONE [551-93-9]

Buttery & Ling (1994,1995,1998); Buttery (1999)	d	0.000 2
Karagül-Yüceer <i>et al.</i> (2003, 2004)	d	0.000 28 – 0.000 3
Czerny <i>et al.</i> (2008)	d	0.000 27
Czerny <i>et al.</i> (2008)	r	0.000 64

4'-AMINOACETOPHENONE [99-92-3]

Buttery & Ling (1994); Buttery (1999)	d	100 - 108
---------------------------------------	---	-----------

2-AMINOENZALDEHYDE [529-23-7]

Buttery (1999)	d	0.011
----------------	---	-------

2-AMINO-1,5-DIHYDRO-1-METHYL-4H-IMIDAZOL-4-ONE (creatinine) [60-27-5]

Dietz & Traud (1978)		> 10
----------------------	--	------

2-AMINOETHANOL (ethanolamine) [141-43-5]

Alexander <i>et al.</i> (1982)	d	32
--------------------------------	---	----

2-(2-AMINOETHYLAMINO)ETHANOL (aminoethylethanolamine) [111-41-1]

Alexander <i>et al.</i> (1982)	d	2.8
--------------------------------	---	-----

aminoethylethanolamine⇒2-(2-AMINOETHYL)AMINOETHANOL

6-AMINOHEXANOIC ACID LACTAM (caprolactam) [105-60-2]

Lillard & Powers (1975)	d	59.7
-------------------------	---	------

(S)-(-)-2-AMINO-3-(4-HYDROXYPHENYL)PROPANOIC ACID (L-tyrosine) [60-18-4]

Dietz & Traud (1978)		> 10
----------------------	--	------

(R)-(+)-2-AMINO-3-MERCAPTOPROPANOIC ACID (L-cysteine) [52-90-4]

Laska (2010)	d	24
--------------	---	----

WATER detection (d) and recognition (r) odour threshold values in mg/kg

(S)-(-)-2-AMINO-3-MERCAPTOPROPANOIC ACID (D-cysteine) [921-01-7]

Laska (2010) d 27

(R)-(-)-2-AMINO-4-(METHYLTHIO)BUTANOIC ACID (D-methionine) [348-67-4]

Laska (2010) d 1.5

(S)-(+)-2-AMINO-4-(METHYLTHIO)BUTANOIC ACID (L-methionine) [63-68-3]

Laska (2010) d 12

2-AMINO-3-PHENYLPROPANOIC ACID (phenylalanine) [150-30-1]

Dietz & Traud (1978) > 10

1-AMINO-2-PROPANOL (isopropanolamine) [78-96-6]

Alexander *et al.* (1982) d 28

N-(3-AMINOPROPYL)-1,4-BUTANEDIAMINE (spermidine) [124-20-9]

Wang *et al.* (1975) d 129

α -AMINOTOLUENE (benzylamine) [100-46-9]

Moncrieff (1957) 3,000

AMMONIA [7664-41-7]

Brown *et al.* (1968) 1.25

Amoore & Forrester (1976) d 23.9

Kikuchi *et al.* (1976) 110

AMMONIUM HYPOCHLORITE

Krasner & Barrett (1984) 0.35

amyl acetate \Rightarrow PENTYL ACETATE

tert-amyl acetate \Rightarrow 1,1-DIMETHYLPROPYL ACETATE

amyl alcohol \Rightarrow 1-PENTANOL

tert-amyl alcohol \Rightarrow 2-METHYL-2-BUTANOL

amyl butyrate \Rightarrow PENTYL BUTANOATE

amyl isobutyrate \Rightarrow PENTYL 2-METHYLPROPANOATE

amyl mercaptan \Rightarrow 1-PENTANETHIOL

tert-amyl mercaptan \Rightarrow 2-METHYL-2-BUTANETHIOL

tert-amyl methyl ether \Rightarrow 2-METHOXY-2-METHYLBUTANE

amyl salicylate \Rightarrow PENTYL SALICYLATE

amyl valerate \Rightarrow PENTYL PENTANOATE

4,16-ANDROSTADIEN-3-ONE (8S,9S,10R,13R,14S)-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15-decahydrocyclopenta[a]phenanthren-3-one [4075-07-4]

Amoore *et al.* (1977) d 0.000 98

5 α -ANDROSTAN-3 α -OL

Amoore *et al.* (1977) d 0.011

5 α -ANDROSTAN-3 β -OL [1224-92-6]

Amoore *et al.* (1977) d > 0.250

5 α -ANDROSTAN-3-ONE [1224-95-9]

Amoore *et al.* (1977) d 0.000 62

5 α -ANDROST-16-EN-3 α -OL [1153-51-1]

Amoore *et al.* (1977) d 0.0062

4-ANDROSTEN-3-ONE

Amoore *et al.* (1977) d 0.002 2

5 α -ANDROST-16-EN-3-ONE [18339-16-7]

WATER detection (d) and recognition (r) odour threshold values in mg/kg

Amoore *et al.* (1977) d 0.000 18
 Gower *et al.* (1985) 0.000 2 - 0.002

(*E*)-anethole⇒1-METHOXY-4-((*E*)-1-PROPENYL)BENZENE
trans-anethole⇒1-METHOXY-4-((*E*)-1-PROPENYL)BENZENE

ANILINE [62-53-3]

Baker (1963) 70.1

anisaldehyde⇒4-METHOXYBENZALDEHYDE
p-anisaldehyde⇒4-METHOXYBENZALDEHYDE
 anise alcohol⇒4-METHOXYBENZYL ALCOHOL
 anisketone⇒1-(4-METHOXYPHENYL)-2-PROPANONE
 anisole⇒METHOXYBENZENE
 anisyl alcohol⇒4-METHOXYBENZYL ALCOHOL

AZACYCLOHEPTANE (hexamethyleneimine) [111-49-9]

Amoore *et al.* (1975b) d 46.9

azacyclohexane⇒PIPERIDINE

AZACYCLOOCTANE (heptamethyleneimine) [1121-92-2]

Amoore *et al.* (1975b) d 82.8

AZACYCLOTRIDECANE (dodecamethyleneimine, 1,12-dodecamethylene diamine) [295-03-4]

Zyabbarova & Kuklina (1979) 0.1

AZETIDINE (trimethyleneimine) [503-29-7]

Amoore *et al.* (1975b) d 21.9

azine⇒PYRIDINE
 azole⇒PYRROLE
 azolidine⇒PYRROLIDINE

B**BENZALDEHYDE [100-52-7]**

Buttery *et al.* (1969b,1971,1987b,1988a,1994a,1997,1999); Guadagni (1970b); Hansen *et al.* (1992);
 Buttery & Ling (1995,1998) d 0.35
 Tilgner & Ziminska (1982) 0.32
 Rabin & Cain (1986) d 1.4 - 2.2
 Delfini (1987) 0.5 - 1.0
 Buttery *et al.* (1990a);Buttery (1993) d 3.5
 Sugisawa *et al.* (1991); Yang *et al.* (1992);
 Tamura *et al.* (1993,1995) d 1 - 4.6
 Darriet *et al.* (2002) d 0.3
 Fabrellas *et al.* (2004) 0.024 - 0.047
 Pino & Mesa (2006) d 0.35
 Giri *et al.* (2010) d 0.75089

BENZENE [71-43-2]

Holluta (1960) 2
 Baker (1963) 31.3
 Zoeteman *et al.* (1971) 10
 Alexander *et al.* (1982) d 0.072
 Sarzynski (1982) 111

benzeneacetaldehyde⇒2-PHENYLETHANAL
 1,2-benzenediol⇒1,2-DIHYDROXYBENZENE
 1,3-benzenediol⇒1,3-DIHYDROXYBENZENE
 1,4-benzenediol⇒1,4-DIHYDROXYBENZENE