

### **Food Safety III:**



### **Food Colours and Aroma**

Chiron has built up a strong track record of supplying new reference standards during the past 25 years of operation. We are now proud to announce our offer of Food Colour and Food Aroma reference standard.



Food Colours
Carotenoids, Chlorophylls, Synthetic colours



**Food Aroma Taste and Flavours** 

The basis of a good analytical method is the availability of appropriate standards of defined purity and concentration.

Our mission is to market highly purified calibrants in crystalline as well as standardized solutions for chemical analysis, including internal standards.

Your benefits using our standards include:

- ♦ Fast turnover time due to excellent service
- ♦ Guaranteed high and consistent quality
- ♦ Sufficient capacity to serve the market, and bulk quantities available on request
- ♦ Custom solutions on request.

Reference materials (RM) play an important role as they build the link between the measurement result in the laboratory and international recognized standards in the traceability chain. Our standards are made according to the general requirements of ISO 17025 and ISO guides 30-35.

#### Other relevant food analysis literature:

Food Safety I (BMF 29): Natural Toxins, Mycotoxins, Plant toxins and Marine toxins

Food Safety II (BMF 30): Food Impurities and Contaminants

Food Safety III (BMF 31): Food Colours and Flavours (Aroma and Taste)

BMF 32 : Plasticizers, Phthalates and Adipates

BMF 20: PCFs including PFOS and PFOA

BMF 14: PCBs

**BMF 15: PBDEs** 

Pesticides: See the Chiron 2008 catalogue ("The Biomarker Catalogue - The Collection of Reference

Standards 2008"): Pages 367-372.

BMF = Biomarker Focus





# **Food Aroma (Taste and Flavours)**



	Off-flavour compounds	
3886.8-100-ME	Skatole	3-Methylindole
3887.11-100-ME	2-Methylisoboreneol	
3888.12-100-ME	(+/-)-Geosmine	
3889.7-100-ME	2,4,6-Trichloroanisole	
3890.4-100-ME	Methional	3-Methylthiopropionaldehyde
3891.15-100-ME	Nootkatone	
3892.10-100-ME	Carvone	
3893.5-100-ME	3-Methyl-2-buten-1-thiol	
	Thiazoles	
3894.5-100-ME	2-Acetylthiazole	
3895.5-100-ME	2-Acetyl-2-thiazoline	
3896.7-100-ME	Benzothiazole	
3897.10-100-ME	2-Isobutylthiazole	

All delivered as 100ug/mL in Methanol.

	Pyrazines	
	Natural pyrazines	
8830.6-K-IO	Natural dimethylpyrazines (2,5 -and 2,6)-	
8831-K-IO	Natural alkyl pyrazines	
8832.8-K-IO	Natural 2,3,5,6-tetramethylpyrazines	
	Alkylpyrazines	
8874.4-K-IO	Pyrazine	
8843.10-K-IO	2-Butyl-3,5-dimethylpyrazine and 2-butyl-3,5-dimethylpyrazine, Isomer mixtu	ure
8837.9-K-IO	2-Butyl-3-methylpyrazine	
8838.8-K-IO	2-t-Butylpyrazine	
8836.8-K-IO	2,3-Diethyl-5-methylpyrazine	FEMA No. 935E
8835.8-K-IO	2,3-Diethylpyrazine	FEMA No. 3136
3771.6-K-IO	2,3-Dimethylpyrazine	FEMA No. 3271
3772.6-K-IO	2,5-Dimethylpyrazine, Research grade	FEMA No. 3272
8833.6-K-IO	2,5-Dimethylpyrazine, Flavour grade	FEMA No. 3273
3773.6-K-IO	2,6-Dimethylpyrazine	FEMA No. 3273
3774.8-K-IO	2-Ethyl-3,5-dimethylpyrazine	
3775.8-K-IO	2-Ethyl-3,6-dimethylpyrazine	
8765.8-K-IO	2-Ethyl-3,(5/6)-dimethylpyrazine, Isomer mixture	
3777.7-K-IO	2-Ethyl-3-methylpyrazine	FEMA No. 3155
3778.7-K-IO	2-Ethyl-5-methylpyrazine	FEMA No. 3154
8834.7-K-IO	2-Ethyl-5-methyl- and 2-Ethyl-6-methylpyrazine, Isomer mixture	FEMA No. 3154&3919
3779.6-K-IO	2-Ethylpyrazine	FEMA No. 3281
3781.9-K-IO	2-Isobutyl-3-methylpyrazine	FEMA No. 3133
8844.10-K-IO	2-Isobutyl-3,5-dimethylpyrazine and 2-isobutyl-3,6-dimethylpyrazine, Isomer mixture	
8839.8-K-IO	2-Isobutylpyrazine	
8845.7-K-IO	2-Isopropylpyrazine	FEMA No. 3940
3785.5-K-IO	2-Methylpyrazine	FEMA No. 3309
8840.9-K-IO	2-Propyl-3,5-dimethylpyrazine and 2-Propyl-3,6-dimethylpyrazine, Isomer mixture	
8841.8-K-IO	2-Propyl-3-methylpyrazine	
8842.7-K-IO	2-n-Propylpyrazine FEMA No. 3961	
3787.7-K-IO	2,3,5-Trimethylpyrazine	FEMA No. 3244
3786.8-K-IO	2,3,5,6-Tetramethylpyrazine	FEMA No. 3237





3770.9-K-IO   2-sec-Butyl-3-methoxypyrazine   8846.7-K-IO   2-Ethoxy-3-methylpyrazine		Methoxy/Alkoxypyrazines			
8846.7-K-10 2-Ethoxy-3-ethylpyrazine 8847.8-K-10 2-Ethoxy-3-stopropylpyrazine 3776.7-K-10 3780.9-K-10 2-Ethoxy-3-stopropylpyrazine 3776.7-K-10 3780.9-K-10 2-Ethoxy-3-stopropylpyrazine 8849.8-K-10 2-Isobutyl-3-methoxypyrazine 8849.8-K-10 2-Methoxy-3-stoputylpyrazine, Isomer mixture 8850.9-K-10 2-Methoxy-3-stoputylpyrazine 8851.9-K-10 2-Methoxy-3-stoputylpyrazine 8856.7-K-10 2-Methoxy-3-stoputylpyrazine 8857.7-K-10 2-Methoxy-3-ethylpyrazine 8857.7-K-10 2-Methoxy-3-ethylpyrazine 8875.8-K-10 2-Methoxy-3-methylpyrazine 8875.8-K-10 2-Methoxy-3-methylpyrazine 8875.8-K-10 2-Methoxy-3-methylpyrazine 8853.8-K-10 2-Propoxy-6-methylpyrazine 8854.7-K-10 Isomer mixture 8854.7-K-10 8855.6-K-10 2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture 2-Ethoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture 8854.7-K-10 8858.8-K-10 2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture 9-Ethoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture 8858.8-K-10 2-Methylthio-3-methylpyrazine 8868.8-K-10 2-Methylthio-3-methylpyrazine 8868.8-K-10 2-Methylthio-3-methylpyrazine 8868.8-K-10 2-Methylthio-3-methylpyrazine 8868.8-K-10 2-Methylthio-3-methylpyrazine 8866.11-K-10 3-Methylthio-3-methyl- and 2-methylpyrazine, Isomer mixture 8866.11-K-10 3-Methylthio-3-methylpyrazine 9-Methylthio-3-methylpyrazine 9-Methylthio-3-methylp	3770 9-K-IO				
S847.8-K-10   2-Ethoxy-3-ethylpyrazine   S848.9-K-10   2-Ethoxy-3-isopropylpyrazine   S776.7-K-10   2-Ethoxy-3-isopropylpyrazine   S859.8-K-10   2-Isobutyl-3-methoxypyrazine   S859.8-K-10   2-Methoxy-3-isobutylpyrazine   FEMA No. 3132   S859.8-K-10   2-Methoxy-3-isopropylpyrazine   FEMA No. 3338   FEMA No. 3358   S856.7-K-10   2-Methoxy-3-ethylpyrazine   FEMA No. 3280   S857.7-K-10   2-Methoxy-3-methylpyrazine   FEMA No. 3280   S857.8-K-10   2-Methoxy-3-methylpyrazine   FEMA No. 3280   S858.8-K-10   2-Methoxy-3-methylpyrazine   S858.8-K-10   S858.8-K-10   2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine   FEMA No. 3183   S858.8-K-10   S868.8-K-10   S8					
8848.9-K-10   2-Ethoxy-3-isopropylpyrazine   3776.7-K-10   2-Ethyl-3-methoxypyrazine   3780.9-K-10   2-Isobutyl-3-methoxypyrazine   3780.9-K-10   2-Isobutyl-3-methoxypyrazine   5EMA No. 3132   2-Methoxy-3-isobutylpyrazine   FEMA No. 3132   2-Methoxy-3-isopropylpyrazine   FEMA No. 3358   8851.9-K-10   2-Methoxy-3-isopropylpyrazine   FEMA No. 3358   8856.7-K-10   2-Methoxy-3-isopropylpyrazine   FEMA No. 3280   5787.3-K-10   2-Methoxy-3-ethylpyrazine   5EMA No. 3280   5787.3-K-10   2-Methoxy-3-ethylpyrazine   5878.3-K-10   2-Methoxy-3-methylpyrazine   5878.3-K-10   2-Methoxy-3-methylpyrazine   5852.8-K-10   2-Methoxy-3-methylpyrazine   5853.8-K-10   2-Methoxy-3-methyl-pyrazine   5853.8-K-10   2-Propoxy-3(5)-methylpyrazine, Isomer mixture   5-Ethoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture   5-EMA No. 3189   5-EMA No. 3231   5-EMA No. 3331   5-EMA					
3776.7-K-IO   2-Ethyl-3-methoxypyrazine   3780.9-K-IO   2-Isobutyl-3-methoxypyrazine   8849.8-K-IO   2-Isobutyl-3-methoxypyrazine   8850.9-K-IO   2-Methoxy-3-isobutylpyrazine   FEMA No. 3132   8851.9-K-IO   2-Methoxy-3-isobutylpyrazine   FEMA No. 3433   7828.8-K-IO   2-Methoxy-3-isopropylpyrazine   FEMA No. 3433   7828.8-K-IO   2-Methoxy-3-ethylpyrazine   FEMA No. 3280   FEMA No. 3280   S857.7-K-IO   2-Methoxy-3-ethylpyrazine   FEMA No. 3280   FEMA No. 3280   S857.7-K-IO   2-Methoxy-3-ethylpyrazine   FEMA No. 3280   FEMA No. 3183   FEMA No. 3189   FEMA No. 3280   FEMA No. 3281   FEMA No. 3293   FEMA No. 3293   FEMA No. 3293   FEMA No. 3306   FEMA No. 3306   FEMA No. 3306   FEMA No. 3306   FEMA No. 3321   FEMA No. 3306   FEMA No. 3321   FEMA No. 3306   FEMA No. 3321   FE					
2-Isobutyl-3-methoxypyrazine   2-Isopropoxy-3(6)-methylpyrazine, Isomer mixture					
8849.8-K-IO         2-Isopropoxy-3(6)-methylpyrazine         FEMA No. 3132           8851.9-K-IO         2-Methoxy-3-isobutylpyrazine         FEMA No. 3433           8851.9-K-IO         2-Methoxy-3-sec-butylpyrazine         FEMA No. 3433           3782.8-K-IO         2-Methoxy-3-ethylpyrazine, 85% (mix with 2-methoxy-3 and 5-methylp.)         FEMA No. 3280           8857.7-K-IO         2-Methoxy-3-ethylpyrazine         FEMA No. 3280           3783.6-K-IO         2-Methoxy-3-methylpyrazine         FEMA No. 3280           8875.8-K-IO         2-Methoxy-3-methylpyrazine         FEMA No. 3280           8875.8-K-IO         2-Methoxy-3-methyl-pyrazine         FEMA No. 3280           8853.8-K-IO         2-Methoxy-3-methyl-pyrazine         FEMA No. 3280           8853.8-K-IO         2-Methoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture         FEMA No. 3569           8854.7-K-IO         2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture         FEMA No. 3183           8858K-IO         2-Methylthio-3-ethylpyrazine         FEMA No. 3183           8859.7-K-IO         2-Methylthio-3-ethylpyrazine         FEMA No. 3189           8861.6-K-IO         2-Methylthio-3-ethylpyrazine         FEMA No. 3208           8863.5-K-IO         2-Methylthio-3-methyl-and 2-methylthylpyrazine, Isomer mixture         FEMA No. 3231           8865					
8850.9.K.IO         2-Methoxy-3-isobutylpyrazine         FEMA No. 3132           8851.9.K.IO         2-Methoxy-3-sec-butylpyrazine         FEMA No. 3433           3782.8.K.IO         2-Methoxy-3-isopropylpyrazine         FEMA No. 3280           8856.7.K.IO         2-Methoxy-3-ethylpyrazine         FEMA No. 3280           8857.7.K.IO         2-Methoxy-3-methylpyrazine         FEMA No. 3280           3783.6.K.IO         2-Methoxy-3-methylpyrazine         FEMA No. 3280           8875.8.K.IO         2-Methoxy-3-methylpyrazine         FEMA No. 3280           3784.5.K.IO         2-Methoxy-3-methylpyrazine         2-Methoxy-3-methylpyrazine           8852.8.K.IO         2-Methoxy-3-methyl-pyrazine, Isomer mixture         E-Propoxy-6-methylpyrazine, Isomer mixture           8854.7.K.IO         2-Methoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture         FEMA No. 3183           8855.6.K.IO         2-Methylypyrazine         FEMA No. 3183           8859.7.K.IO         2-Methyltpoyrazine         FEMA No. 3189           8859.7.K.IO         2-Methylthipoyrazine         FEMA No. 3189           8860.8.K.IO         2-Methylthio-3-methylpyrazine (single isomer)         FEMA No. 3189           8861.6.K.IO         2-Methylthio-3-methylpyrazine (single isomer)         FEMA No. 3208           8863.1.K.IO         2-Methyltminoxaline		* ***			
8851.9-K-IO   2-Methoxy-3-sec-butylpyrazine   FEMA No. 3433   3782.8-K-IO   2-Methoxy-3-ethylpyrazine   FEMA No. 3280   FEMA No. 3280   8856.7-K-IO   2-Methoxy-3-ethylpyrazine   FEMA No. 3280   8857.7-K-IO   2-Methoxy-3-ethylpyrazine   FEMA No. 3280   3783.6-K-IO   2-Methoxy-3-methylpyrazine   8875.8-K-IO   2-Methoxy-3-methylpyrazine   8852.8-K-IO   2-Methoxy-3-methylpyrazine   8853.8-K-IO   2-Methoxy-3-methylpyrazine   8853.8-K-IO   2-Methoxy-3-methylpyrazine   8853.8-K-IO   2-Methoxy-3-methyl- and 2-ethoxy-5-methylpyrazine,   Iosmer mixture   2-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine,   Iosmer mixture   FEMA No. 3183   8854.7-K-IO   2-Methylthio-3-methyl- and 2-methoxy-5-methylpyrazine,   Isomer mixture   FEMA No. 3183   8859.7-K-IO   2-Methylthio-3-isopropylpyrazine   8860.8-K-IO   2-Methylthio-3-isopropylpyrazine   8861.6-K-IO   2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine,   Isomer mixture   FEMA No. 3208   8863.5-K-IO   2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine,   Isomer mixture   FEMA No. 3208   8863.1-K-IO   2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine,   Isomer mixture   FEMA No. 3208   8863.1-K-IO   2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine,   Isomer mixture   FEMA No. 3201   8866.11-K-IO   2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine,   Isomer mixture   FEMA No. 3201   8867.11-K-IO   3-Methylquinoxaline   FEMA No. 3203   321   322   323   324		1 1 2 12	EEM A No. 2122		
3782.8 K-IO   2-Methoxy-3-isopropylpyrazine   FEMA No. 3358					
8856.7-K-IO 2-Methoxy-3-ethylpyrazine, 85% (mix with 2-methoxy-3 and 5-methylp.) FEMA No. 3280  8857.7-K-IO 2-Methoxy-3-ethylpyrazine FEMA No. 3280  3783.6-K-IO 2-Methoxy-3-methylpyrazine  8875.8-K-IO 2-Methoxy-3-methylpyrazine  8875.8-K-IO 2-Methoxy-3-m-propylpyrazine  8852.8-K-IO 2-methylpyrazine  8853.8-K-IO 2-n-Propoxy-6-methylpyrazine, Isomer mixture  2-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture  8854.7-K-IO Isomer mixture  8855.6-K-IO 2-Methylbio-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture  8858K-IO 2-Methylthio-3-ethylpyrazine  8859.7-K-IO 2-Methylthio-3-ethylpyrazine  8860.8-K-IO 2-Methylthio-3-ethylpyrazine (single isomer)  8861.6-K-IO 2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture  8862.6-K-IO 2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture  8866.11-K-IO 3-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture  8866.11-K-IO 5-Methylduinoxaline  8867.11-K-IO 6-Methylquinoxaline  8869.10-K-IO 5-Methylquinoxaline  8869.10-K-IO G-Methylquinoxaline  8869.10-K-IO 5-Methyldio-3-methylpyrazine  8870.8-K-IO 2-Acetyl-3-ethylpyrazine  8870.8-K-IO 2-Acetyl-3-ethylpyrazine  8870.8-K-IO 2-Acetyl-3-methylpyrazine  FEMA No. 3250  8871.7-K-IO 2-Acetyl-3-methylpyrazine  FEMA No. 3964  8872.6-K-IO 2-Acetyl-3-methylpyrazine  FEMA No. 39126		7 717			
September   Sept					
3783.6-K-IO   2-Methoxy-3-methylpyrazine   2-Methoxy-3-n-propylpyrazine   3784.5-K-IO   2-Methoxy-3-n-propylpyrazine   3784.5-K-IO   2-Methoxypyrazine   3784.5-K-IO   2-N-Propoxy-6-methylpyrazine   3852.8-K-IO   2-n-Propoxy-3(5)-methylpyrazine, Isomer mixture   3-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture   5-Methylthiopyrazine   5-Methylthiopyrazine   5-Methylthiopyrazine   5-Methylthiopyrazine   5-Methylthiopyrazine   5-Methylthiopyrazine   5-Methylthiopyrazine   5-Methylthiopyrazine   5-Methylthio-3-methylpyrazine   5-Methylthio-3-methylthio-3-methylpyrazine   5-Methylthio-3-methylpyrazine   5-Methylthiopyrazine   5-Methy		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
8875.8-K-IO         2-Methoxy-3-n-propylpyrazine           3784.5-K-IO         2-Methoxypyrazine           8852.8-K-IO         2-n-Propoxy-6-methylpyrazine, Isomer mixture           8853.8-K-IO         2-n-Propoxy-3(5)-methylpyrazine, Isomer mixture           8854.7-K-IO         2-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture           8855.6-K-IO         2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture           8858K-IO         2-Methylthiopyrazines           8859K-IO         2-Methylthio-3-ethylpyrazine           8859K-IO         2-Methylthio-3-ethylpyrazine           8860.8-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture           8861K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture           8863.5-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture           8865.11-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture           8865.11-K-IO         2-Methylquinoxaline           8865.11-K-IO         2-Methylquinoxaline           8866.11-K-IO         5-Methylquinoxaline           8867.11-K-IO         5-Methylquinoxaline           8869.10-K-IO         5-Methylquinoxaline           8868.10-K-IO         5.6,7,8-Tetrahydroquinoxaline           8870.8-K-IO		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FEMA No. 3280		
3784.5-K-IO         2-Methoxypyrazine           8852.8-K-IO         2-n-Propoxy-6-methylpyrazine, Isomer mixture           8853.8-K-IO         2-n-Propoxy-3(5)-methylpyrazine, Isomer mixture           2-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture         FEMA No. 3569           8854.7-K-IO         2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture         FEMA No. 3183           8855.6-K-IO         2-Methylthiopyrazines         FEMA No. 3189           8859.7-K-IO         2-Methylthio-3-ethylpyrazine         FEMA No. 3189           8860.8-K-IO         2-Methylthio-3-ethylpyrazine         FEMA No. 3189           8866.8-K-IO         2-Methylthio-3-ethylpyrazine         FEMA No. 3189           8866.8-K-IO         2-Methylthio-3-inethylpyrazine (single isomer)         FEMA No. 3208           8863.5-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture         FEMA No. 3208           8865.11-K-IO         2-Methylquinoxaline         FEMA No. 3231           8866.11-K-IO         2-Methylquinoxaline         FEMA No. 3203           8867.11-K-IO         5-Methylquinoxaline         FEMA No. 3306           8864.10-K-IO         5-Methylquinoxaline         FEMA No. 3306           8868.10-K-IO         5.6,7,8-Tetrahydroquinoxaline         Cyclohexapyrazine, FEMA No. 3321           887		* ***			
8852.8-K-IO         2-n-Propoxy-6-methylpyrazine           8853.8-K-IO         2-n-Propoxy-3(5)-methylpyrazine, Isomer mixture           8854.7-K-IO         2-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture           8855.6-K-IO         2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture           Methylthiopyrazines         FEMA No. 3183           8858K-IO         2-Methyl-2,5(6)-(furfurylthio)pyrazine         FEMA No. 3189           8859.7-K-IO         2-Methylthio-3-ethylpyrazine         FEMA No. 3189           8860.8-K-IO         2-Methylthio-3-ethylpyrazine         FEMA No. 3189           8861.6-K-IO         2-Methylthio-3-methylpyrazine (single isomer)         FEMA No. 3208           8862.6-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture         FEMA No. 3208           8863.5-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture         FEMA No. 3208           8865.11-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine         FEMA No. 3208           8865.11-K-IO         2-Methylthio-3-methylpyrazines         FEMA No. 3203           8867.11-K-IO         6-Methylquinoxaline         FEMA No. 3203           8869.10-K-IO         5H-5-Methyl-6,7-dihydrocyclopentapyrazine         FEMA No. 3306           8868.10-K-IO         5.6,7,8-Tetrahydroquinoxaline					
2-n-Propoxy-3(5)-methylpyrazine, Isomer mixture   2-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture   2-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, Isomer mixture   2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, Isomer mixture   2-Methylthiopyrazines   2-Methylthiopyrazines   2-Methylthiopyrazines   2-Methylthio-3-ethylpyrazine   2-Methylthio-3-ethylpyrazine   2-Methylthio-3-isopropylpyrazine   2-Methylthio-3-methylpyrazine   2-Methylthio-3-methylpyrazine   2-Methylthio-3-methylpyrazine (single isomer)   2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture   FEMA No. 3208   8863.5-K-IO   2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture   FEMA No. 3201   2-Methylthiopyrazine   FEMA No. 3231   2-Methylthiopyrazine   FEMA No. 3203   8865.11-K-IO   2-Methylthiopyrazine   FEMA No. 3203   8865.11-K-IO   5-Methylquinoxaline   FEMA No. 3203   8867.11-K-IO   5-Methylquinoxaline   FEMA No. 3306   8864.10-K-IO   G-Methylquinoxaline   5,6,7,8-Tetrahydroquinoxaline   Cyclohexapyrazine, FEMA No. 3321   Acetylpyrazines   FEMA No. 3250   8871.7-K-IO   2-Acetyl-3-methylpyrazine   FEMA No. 3964   8872.6-K-IO   2-Acetyl-3-methylpyrazine   FEMA No. 3964   8872.6-K-IO   2-Acetyl-3-methylpyrazine   FEMA No. 3126   FEMA No. 312		***			
2-Ethoxy-3-methyl- and 2-ethoxy-5-methylpyrazine, losmer mixture  2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, lsomer mixture  2-Methoxy-3-methyl- and 2-methoxy-5-methylpyrazine, lsomer mixture  8855.6-K-IO  8855.6-K-IO  2-Methylthiopyrazines  8858K-IO  2-Methylthio-3-ethylpyrazine  8860.8-K-IO  2-Methylthio-3-methylpyrazine  8861.6-K-IO  2-Methylthio-3-methylpyrazine (single isomer)  8862.6-K-IO  2-Methylthio-3-methylpyrazine (single isomer)  8863.5-K-IO  2-Methylthiopyrazine  FEMA No. 3208  8863.5-K-IO  2-Methylthiopyrazine  FEMA No. 3231  Quinoxalines (Benzopyrazines)  8866.11-K-IO  2-Methylquinoxaline  8866.11-K-IO  5-Methylquinoxaline  8869.10-K-IO  5H-5-Methyl-6,7-dihydrocyclopentapyrazine  FEMA No. 3306  8864.10-K-IO  Quinoxaline  8868.10-K-IO  2-Acetylpyrazines  8870.8-K-IO  2-Acetyl-3-ethylpyrazine  FEMA No. 3250  FEMA No. 3964  8872.6-K-IO  2-Acetyl-3-methylpyrazine  FEMA No. 3964  FEMA No. 3126					
R854.7-K-IO   Iosmer mixture   FEMA No. 3569	8853.8-K-IO				
Isomer mixture	8854.7-K-IO		FEMA No. 3569		
8858K-IO         2-Methyl-2,5(6)-(furfurylthio)pyrazine         FEMA No. 3189           8859.7-K-IO         2-Methylthio-3-ethylpyrazine         8860.8-K-IO           8861.6-K-IO         2-Methylthio-3-methylpyrazine (single isomer)         FEMA No. 3208           8862.6-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture         FEMA No. 3208           8863.5-K-IO         2-Methylthiopyrazine         FEMA No. 3231           Quinoxalines (Benzopyrazines)         PEMA No. 3231           8865.11-K-IO         2-Methylquinoxaline         FEMA No. 3203           8867.11-K-IO         6-Methylquinoxaline         FEMA No. 3203           8867.11-K-IO         5-Methyl-6,7-dihydrocyclopentapyrazine         FEMA No. 3306           8868.10-K-IO         Quinoxaline         Cyclohexapyrazine, FEMA No. 3321           8868.10-K-IO         2-Acetylpyrazines         FEMA No. 3250           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126	8855.6-K-IO		FEMA No. 3183		
8859.7-K-IO       2-Methylthio-3-ethylpyrazine         8860.8-K-IO       2-Methylthio-3-methylpyrazine (single isomer)         8861.6-K-IO       2-Methylthio-3-methylpyrazine (single isomer)         8862.6-K-IO       2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture         8863.5-K-IO       2-Methylthiopyrazine         PEMA No. 3208         PEMA No. 3231         Quinoxalines (Benzopyrazines)         8865.11-K-IO       2-Methylquinoxaline         8866.11-K-IO       5-Methylquinoxaline         8867.11-K-IO       6-Methylquinoxaline         8869.10-K-IO       5H-5-Methyl-6,7-dihydrocyclopentapyrazine         8868.10-K-IO       Quinoxaline         8868.10-K-IO       5,6,7,8-Tetrahydroquinoxaline         Cyclohexapyrazine, FEMA No. 3321         Acetylpyrazines       FEMA No. 3250         8871.7-K-IO       2-Acetyl-3-ethylpyrazine       FEMA No. 3964         8872.6-K-IO       2-Acetylyrazine       FEMA No. 3126		Methylthiopyrazines			
8860.8-K-IO         2-Methylthio-3-isopropylpyrazine           8861.6-K-IO         2-Methylthio-3-methylpyrazine (single isomer)           8862.6-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture         FEMA No. 3208           8863.5-K-IO         2-Methylthiopyrazine         FEMA No. 3231           Quinoxalines (Benzopyrazines)           8865.11-K-IO         2-Methylquinoxaline         FEMA No. 3203           8866.11-K-IO         5-Methylquinoxaline         FEMA No. 3203           8867.11-K-IO         6-Methylquinoxaline         FEMA No. 3306           8869.10-K-IO         Quinoxaline         Cyclohexapyrazine, FEMA No. 3321           Acetylpyrazines           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3250           8871.7-K-IO         2-Acetyl-3-methylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126	8858K-IO	2-Methyl-2,5(6)-(furfurylthio)pyrazine	FEMA No. 3189		
8861.6-K-IO 2-Methylthio-3-methylpyrazine (single isomer)  8862.6-K-IO 2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture  8863.5-K-IO 2-Methylthiopyrazine  8865.11-K-IO 2-Methylthiopyrazines)  8865.11-K-IO 2-Methylquinoxaline  8866.11-K-IO 5-Methylquinoxaline  8869.10-K-IO 5H-5-Methyl-6,7-dihydrocyclopentapyrazine  8869.10-K-IO Quinoxaline  8868.10-K-IO Quinoxaline  8868.10-K-IO 2-Acetylpyrazines  8870.8-K-IO 2-Acetyl-3-ethylpyrazine  8871.7-K-IO 2-Acetyl-3-methylpyrazine  8872.6-K-IO 2-Acetylpyrazine  FEMA No. 3260  FEMA No. 3250  FEMA No. 3964  FEMA No. 3964	8859.7-K-IO	2-Methylthio-3-ethylpyrazine			
8862.6-K-IO         2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture         FEMA No. 3208           8863.5-K-IO         2-Methylthiopyrazine         FEMA No. 3231           Quinoxalines (Benzopyrazines)           8865.11-K-IO         2-Methylquinoxaline         FEMA No. 3203           8866.11-K-IO         5-Methylquinoxaline         FEMA No. 3203           8867.11-K-IO         6-Methylquinoxaline         FEMA No. 3306           8869.10-K-IO         5H-5-Methyl-6,7-dihydrocyclopentapyrazine         FEMA No. 3306           8868.10-K-IO         Quinoxaline         Cyclohexapyrazine, FEMA No. 3321           Acetylpyrazines           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3250           8871.7-K-IO         2-Acetyl-3-methylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126	8860.8-K-IO	2-Methylthio-3-isopropylpyrazine			
8863.5-K-IO         2-Methylthiopyrazine         FEMA No. 3231           Quinoxalines (Benzopyrazines)           8865.11-K-IO         2-Methylquinoxaline           8866.11-K-IO         5-Methylquinoxaline           8867.11-K-IO         6-Methylquinoxaline           8869.10-K-IO         5H-5-Methyl-6,7-dihydrocyclopentapyrazine           8864.10-K-IO         Quinoxaline           8868.10-K-IO         Cyclohexapyrazine, FEMA No. 3321           Acetylpyrazines         FEMA No. 3250           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126	8861.6-K-IO	2-Methylthio-3-methylpyrazine (single isomer)			
Quinoxalines (Benzopyrazines)           8865.11-K-IO         2-Methylquinoxaline           8866.11-K-IO         5-Methylquinoxaline           8867.11-K-IO         6-Methylquinoxaline           8869.10-K-IO         5H-5-Methyl-6,7-dihydrocyclopentapyrazine         FEMA No. 3306           8864.10-K-IO         Quinoxaline         Cyclohexapyrazine, FEMA No. 3321           Acetylpyrazines         Acetylpyrazines         FEMA No. 3250           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126	8862.6-K-IO	2-Methylthio-3-methyl- and 2-methylthio-5-methylpyrazine, Isomer mixture	FEMA No. 3208		
8865.11-K-IO       2-Methylquinoxaline         8866.11-K-IO       5-Methylquinolxaline         8867.11-K-IO       6-Methylquinoxaline         8869.10-K-IO       5H-5-Methyl-6,7-dihydrocyclopentapyrazine         8864.10-K-IO       Quinoxaline         8868.10-K-IO       5,6,7,8-Tetrahydroquinoxaline         Cyclohexapyrazine, FEMA No. 3321         Acetylpyrazines         8870.8-K-IO       2-Acetyl-3-ethylpyrazine         8871.7-K-IO       2-Acetyl-3-methylpyrazine         8872.6-K-IO       2-Acetylpyrazine	8863.5-K-IO	2-Methylthiopyrazine	FEMA No. 3231		
8866.11-K-IO       5-Methylquinolxaline       FEMA No. 3203         8867.11-K-IO       6-Methylquinoxaline       FEMA No. 3306         8869.10-K-IO       5H-5-Methyl-6,7-dihydrocyclopentapyrazine       FEMA No. 3306         8864.10-K-IO       Quinoxaline       Cyclohexapyrazine, FEMA No. 3321         Acetylpyrazines         8870.8-K-IO       2-Acetyl-3-ethylpyrazine       FEMA No. 3250         8871.7-K-IO       2-Acetyl-3-methylpyrazine       FEMA No. 3964         8872.6-K-IO       2-Acetylpyrazine       FEMA No. 3126		Quinoxalines (Benzopyrazines)			
8867.11-K-IO       6-Methylquinoxaline         8869.10-K-IO       5H-5-Methyl-6,7-dihydrocyclopentapyrazine       FEMA No. 3306         8864.10-K-IO       Quinoxaline         8868.10-K-IO       5,6,7,8-Tetrahydroquinoxaline       Cyclohexapyrazine, FEMA No. 3321         Acetylpyrazines         8870.8-K-IO       2-Acetyl-3-ethylpyrazine       FEMA No. 3250         8871.7-K-IO       2-Acetyl-3-methylpyrazine       FEMA No. 3964         8872.6-K-IO       2-Acetylpyrazine       FEMA No. 3126	8865.11-K-IO	2-Methylquinoxaline			
8869.10-K-IO         5H-5-Methyl-6,7-dihydrocyclopentapyrazine         FEMA No. 3306           8864.10-K-IO         Quinoxaline         Cyclohexapyrazine, FEMA No. 3321           Acetylpyrazines           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3250           8871.7-K-IO         2-Acetyl-3-methylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126	8866.11-K-IO	5-Methylquinolxaline	FEMA No. 3203		
8869.10-K-IO         5H-5-Methyl-6,7-dihydrocyclopentapyrazine         FEMA No. 3306           8864.10-K-IO         Quinoxaline         Cyclohexapyrazine, FEMA No. 3321           Acetylpyrazines           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3250           8871.7-K-IO         2-Acetyl-3-methylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126	8867.11-K-IO	6-Methylquinoxaline			
8868.10-K-IO         5,6,7,8-Tetrahydroquinoxaline         Cyclohexapyrazine, FEMA No. 3321           Acetylpyrazines           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3250           8871.7-K-IO         2-Acetyl-3-methylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126					
8868.10-K-IO         5,6,7,8-Tetrahydroquinoxaline         Cyclohexapyrazine, FEMA No. 3321           Acetylpyrazines           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3250           8871.7-K-IO         2-Acetyl-3-methylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126	8864.10-K-IO	· · · · · · · · · · · · · · · · · · ·			
Acetylpyrazines           8870.8-K-IO         2-Acetyl-3-ethylpyrazine         FEMA No. 3250           8871.7-K-IO         2-Acetyl-3-methylpyrazine         FEMA No. 3964           8872.6-K-IO         2-Acetylpyrazine         FEMA No. 3126		5,6,7,8-Tetrahydroquinoxaline			
8871.7-K-IO 2-Acetyl-3-methylpyrazine FEMA No. 3964 8872.6-K-IO 2-Acetylpyrazine FEMA No. 3126		Acetylpyrazines			
8872.6-K-IO 2-Acetylpyrazine FEMA No. 3126	8870.8-K-IO	2-Acetyl-3-ethylpyrazine	FEMA No. 3250		
8872.6-K-IO 2-Acetylpyrazine FEMA No. 3126	8871.7-K-IO				
1 - 1	8872.6-K-IO				

All delivered as 1000 ug/mL in Isooctane.

	Phenols	
1358.7-1G	p-Cresol	1G neat
1411.8-1G	4-Ethylphenol	1G neat
2372.7-K-IO	Guaiacol	1000ug/mL in Isooctane
3898.8-K-MX	4-Vinylphenol	1000ug/mL in mix of solvents
3899.8-K-IO	2-Methoxy-4-vinylphenol	1000ug/mL in Isooctane
3900.8-1ML	Eugenol	1ML neat
2370.8-K-IO	Vanillin	1000ug/mL in Isooctane
	Quassins (bitter taste)	
8800.22-100MG	Quassin, mixture of isomers w/Neoquassin and Isoquassin	100MG neat







	Caffeine		
2517.8-K-ME	Caffeine		1000ug/mL in Methanol
2517.8-500MG	Caffeine		500MG neat
2518.7-100-ME	Theophylline	Imp. A (EP)	100ug/mL in Methanol
2518.7-500MG	Theophylline	Imp. A (EP)	500MG neat
2700.8-K-ME	Isocaffeine (1,3,9-Trimethylxanthine)	Imp. C (EP)	1000ug/mL in Methanol
2700.8-10MG	Isocaffeine (1,3,9-Trimethylxanthine)	Imp. C (EP)	10MG neat
2700.8-25MG	Isocaffeine (1,3,9-Trimethylxanthine)	Imp. C (EP)	25MG neat
2540.7-K-ME	Paraxanthine		1000ug/mL in Methanol
2540.7-10MG	Paraxanthine		10MG neat
2540.7-25MG	Paraxanthine		25MG neat
2540.7-50MG	Paraxanthine		50MG neat

## **Food Colours**



	Food Colours		
	Carotenoids		
3903.30-5MG	8'-Apo-8-β-caroten-8'-al	E 160e	5MG neat
3902.40-5MG	Astaxanthin		5MG neat
3904.25-5MG	Bixin	E 160b	5MG neat
3901.40-5MG	Canthaxanthin	E 161g	5MG neat
2641.40-10MG	ßß-Carotene	E 160a	10MG neat
8102.40-1MG	Capxanthin		1MG neat
3655.20-5MG	trans-Crocetine		5MG neat
3927.40-5MG	Lutein		5MG neat
3925.40-5MG	Lycopene	E160d	5MG neat
3654.40-1MG	Zeaxanthin		1MG neat
	Chlorophylls		
3928.55-1G	Chlorophylls, Na salt	E 140	1G neat
3593.55-1MG	Chlorophyll A		1MG neat
3594.55-1MG	Chlorophyll B		1MG neat
	Other food colours		
3905.16-1G	Tartrazine (E102)	C.I.19140; Acid yellow 23	1G neat
3906.17-1G	Riboflavin (E101)	Vitamin B2: Lactoflavine	1G neat
3907.21-1G	Curcumin (E 100)		1G neat
3908.16-1G	Sunset Yellow FCF (E 110)	C.I.15985, Yellow No.6, Food yellow 3	1G neat
3909.20-1G	Amaranth, Redx No 2 (E 123)	C.I.16185, Acid red 27	1G neat
3910.22-1G	Carmine, Natural red 4 (E 120)	C.I.75470	1G neat
3911.18-1G	Red 2G, Acid red 1 (E 128)		1G neat
3912.27-1G	Patent Blue V, Ca salt (E 131)		1G neat
8719.27-250mg	Patent Blue V, Na salt		250MG neat
8349.27-100MG	Patent Blue V, Acid blue	C.I.42045	100MG neat
8346.27-1G	Patent Blue VF	C.I.42045	1G neat