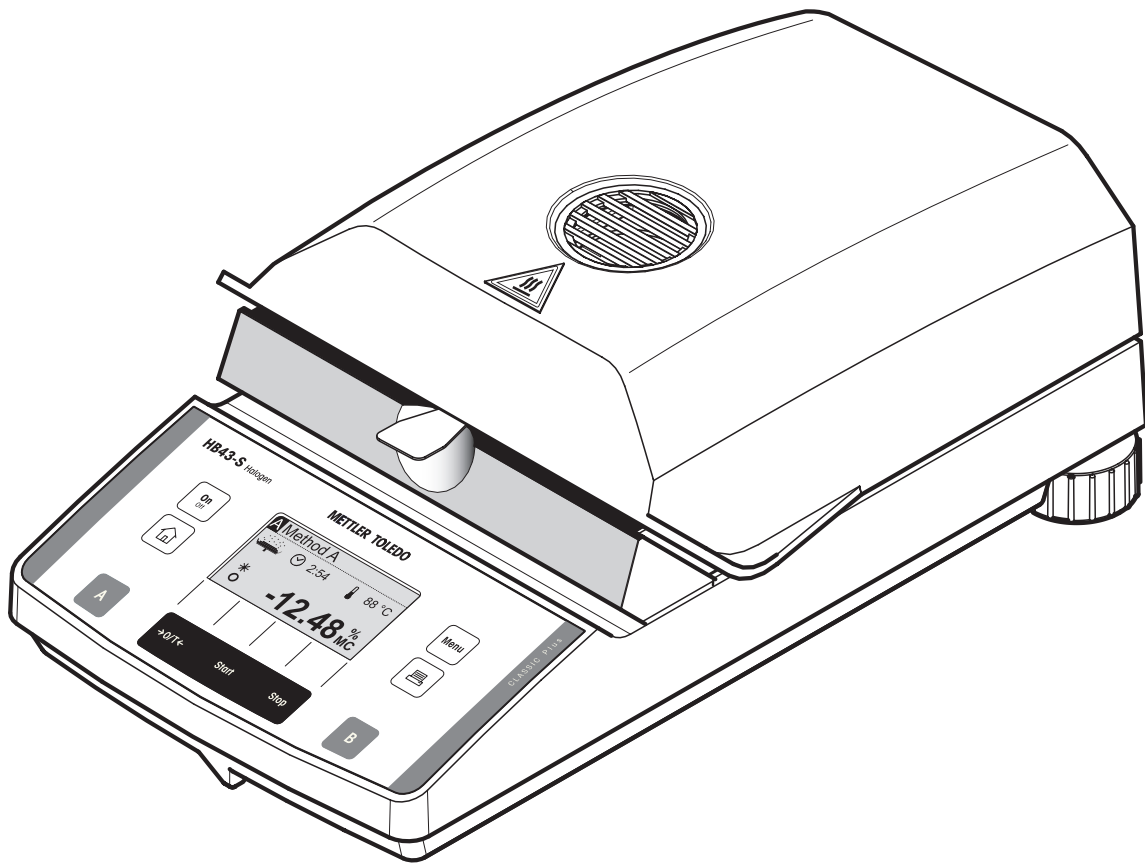


# Application Methods

METTLER TOLEDO

## HB43-S Moisture Analyzers





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# 1 Application Methods for the HB43-S

## 1.1 Contents

### 1.1.1 Supplement to the HB43-S operating instructions

This document contains detailed instructions for the Methods database, and supplements the operating instructions for the HB43-S Moisture Analyzer ([www.mt.com/moisture](http://www.mt.com/moisture)). For instructions on operating the instrument, please consult the operating instructions, especially with regard to precautions and safety warnings.

### 1.1.2 Introduction

The HB43-S Moisture Analyzer contains a database of over 100 predefined methods whose parameters are each coordinated to a particular product or product group. You can use one of the predefined methods directly or adjust its parameters to your individual needs. The database significantly shortens the time it takes you to develop your methods.

**Note:**



You should check the following information to make sure it corresponds to your needs. To do this, METTLER TOLEDO recommends that you conduct a comparative test to verify that the results correspond to the reference procedure (e.g. kiln, Karl Fischer titration).

The use or transfer of an application example (method) is beyond the control of METTLER TOLEDO. For this reason, METTLER TOLEDO accepts no responsibility for its use. Safety warnings and precautions (e.g. for chemicals or solvents) must be observed.

## 2 Method Groupings

The methods for groups of similar substances—for example, for “milk products” or “tea and coffee” – have been combined to help orient the user within the database.

1510.01 Egg yolk, powder
1510.02 Poultry meat
1510.03 Beef meat
<input type="checkbox"/> <input checked="" type="checkbox"/> Edit ↩

Each method has been given a unique reference number (e.g. 1510.02 for poultry meat). The first four digits (here 1510) refer to the group. The two places after the decimal point are consecutive numbering within this group (here .02).

### 2.1 Product groups

Food	ID number	Examples
Meat, poultry (incl. eggs), fish	1510	Beef, powdered egg yolk
Fruits, vegetables and nuts	1530	Apple juice, carrot juice, Almonds (ground)
Oils and fats	1540	Butter, margarine
Milk products	1550	Cream, powdered milk, cheese
Cereal grains and legumes	1560	Oats, polenta, flour
Animal nutrition	1570	Poultry feed
Baked goods	1581	Cake, patisserie, toast bread
Chocolate and cocoa products	1584	Chocolate, chocolate pudding
Pasta	1585	Spaghetti
Tea and coffee	1586	Green tea, instant iced tea
Snacks, condiments and ready-made products	1587	Instant soups, Peanut Puffs, salad dressing, pepper
Auxiliary agents	1599	Pectin, gelatine, baking powder
<b>Other substances</b>		
Other substances	1600	Tobacco, sodium tartrate

## 3 Application Examples

The Methods Collection (Section 3.2) lists the methods contained in the HB43-S Moisture Analyzer from METTLER TOLEDO. The data provides a concrete reference point for setting the drying parameters in order to obtain similar results quickly from the measurements taken in the drying oven. You can find additional examples on the Internet at:

[www.mt.com/moisture-methods](http://www.mt.com/moisture-methods)

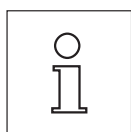
### 3.1 Instructions for the Methods Collection (Section 3.2)

#### 3.1.1 Sample preparation

1	Mix sample, apply evenly to glass fiber filter with pipette.
2	Mix sample, use spatula to distribute evenly on the sample pan.
3	Allow sample to warm to room temperature, spread evenly on the sample pan.
4	Grind sample in mortar, use spatula to distribute evenly on sample pan.
5	Chop sample with onion chopper, use spatula to distribute evenly on sample pan.
6	Dice sample (approx. 1 cm), dry in drying oven for 14.5 h at 40° C, then grind in mortar. Mix dried sample, use spatula to distribute evenly on sample pan.
7	Homogenize sample, mix, use spatula to distribute evenly on a glass fiber filter, cover with a second filter and press lightly.
8	Grind sample, mix, use spatula to distribute evenly on the sample pan.
9	Mix sample, use spatula to remove individual "balls" (without liquid, if possible), place on the glass fiber filter.
10	Grate sample, mix, use spatula to distribute evenly on the glass fiber filter.
11	Mix sample, use spatula to spread evenly on the glass fiber filter.
12	Grind sample in blender, mix, use spatula to distribute evenly on the sample pan.
13	Mix sample, place on sample pan with a pipette, place a glass fiber filter on top.
14	Dry metal pan (approx. 5 cm) with cover in the oven (102° C, 1h), allow to cool in dessicator, weigh. Allow sample to warm to room temperature, mix, add, weigh.
15	Dry metal pan (approx. 8 cm) with 10 g Sand, glass stirrer and cover in the oven (103° C, 30 min), allow to cool in dessicator, weigh. Mix sample, add with pipette, weigh, mix with sand, evaporate on water bath for 30 min.
16	Dry metal pan with 10 g sand, glass stirrer and cover in the oven (103° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh, mix with sand, allow to evaporate on water bath, mix again.
17	Dry metal pan with 20 g of sand, glass stirrer and cover in the oven (102° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh, allow to evaporate in oven for 30 min at 90° C, add 5 ml of water, mix.
18	Dry metal pan with 20 g of sand, glass stirrer and cover in the oven (102° C, 1h), allow to cool in dessicator, weigh. Grate sample, mix, add, weigh, mix with sand.
19	Dry metal pan with 25 g sand, glass stirrer and cover in the oven (103° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh, mix with sand.
20	Dry metal pan with cover in the oven (102° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh, evaporate for 30 min over a boiling water bath.
21	Dice sample (approx. 1 cm), dry in drying oven for 14.5 h at 40° C, then grind in mortar. Dry glass dish with cover in oven (103° C, 1h), allow to cool in dessicator, weigh. Mix dried sample, add, weigh.
22	Dry weighing container with 10 g of sand, glass stirrer and cover in the oven (102° C, 1h), weigh. Mix sample, add, weigh, grind with sand.
23	Dry weighing container with 10 g of sand, glass stirrer and cover in the oven (102° C, 1h), weigh. Grate sample, mix, add, weigh, grind with sand.
24	Dry weighing container with 20 g of sand, glass stirrer and cover in oven (102° C, 1h), allow to cool in dessicator, weigh. Homogenize sample, mix, add, weigh, mix with sand.
25	Dry weighing container with 20 g of sand, glass stirrer and cover in oven (103° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh, mix with sand.
26	Dry weighing container with cover in oven (102° C, 1h), allow to cool in dessicator, weigh. Grind sample in mortar, mix, add, weigh.
27	Dry weighing container with cover in oven (103° C, 1h), allow to cool in dessicator, weigh. Grind sample, mix, add, weigh.
28	Dry weighing container with cover in oven (103° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh.

29	Dry weighing container with cover in oven (103° C, 1h), allow to cool in dessicator, weigh. Grind sample in blender, mix, add, weigh.
30	Dry weighing container with cover in oven (103° C, 1h), allow to cool in dessicator, weigh. Chop sample with onion chopper, mix, add, weigh.
31	Dry weighing container with cover in oven (105° C, 1h), allow to cool in dessicator, weigh. Grind sample in mortar, mix, add, weigh.
32	Dry weighing container with cover in oven (105° C, 1h), allow to cool in dessicator, weigh. Grind sample, mix, add, weigh.
33	Dry weighing container with cover in oven (105° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh.
34	Dry weighing container with cover in oven (131° C, 1h), allow to cool in dessicator, weigh. Grind sample, mix, add, weigh.
35	Dry weighing container with cover in oven (131° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh.
36	Dry weighing container with cover in oven (95° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh.
37	Dry weighing container with cover in oven (150° C, 1h), allow to cool in dessicator, weigh. Mix sample, add, weigh.

### 3.1.2 Procedure



#### Reference method (Oven)

In accordance with the specifications of the Swiss Food Manual (2006), the **oven** reference method was used for all foods.

a	Dry in the oven (1.5 h), allow to cool to room temperature in dessicator with the cover closed, weigh.
b	Dry in the oven (100 min), allow to cool to room temperature in dessicator with the cover closed, weigh.
c	Dry in the oven (16 h), allow to cool to room temperature in dessicator with the cover closed, weigh.
d	Dry in the oven (1 h), allow to cool to room temperature in dessicator with the cover closed, weigh. Mix the sample, dry it again in the oven (1 h), cool in dessicator, weigh.
e	Dry in the oven (2 h), allow to cool to room temperature in dessicator with the cover closed, weigh.
f	Dry in the oven (2 h), allow to cool to room temperature in dessicator with the cover closed, weigh. Dry the sample three more times in the oven (1 h, each time), cool in dessicator, weigh.
g	Dry in the oven (2 h), allow to cool to room temperature in dessicator with the cover closed, weigh. Dry the sample again in the oven (1 h), cool in dessicator, weigh.
h	Dry in the oven (2 h), allow to cool to room temperature in dessicator with the cover closed, weigh. Dry the sample two more times in the oven (1 h, each time), cool in dessicator, weigh.
i	Dry in the oven (3 h), allow to cool to room temperature in dessicator with the cover closed, weigh.
k	Dry in the oven (3 h), allow to cool to room temperature in dessicator with the cover closed, weigh. Dry the sample again in the oven (1 h), cool in dessicator, weigh.
l	Dry in the oven (4 h), allow to cool to room temperature in dessicator with the cover closed, weigh.
m	Dry in the oven (4 h), allow to cool to room temperature in dessicator with the cover closed, weigh. Dry the sample again in the oven (1 h), cool in dessicator, weigh.
n	Dry in the oven (4 h), allow to cool to room temperature in dessicator with the cover closed, weigh. Dry the sample two more times in the oven (0.5 h, each time), cool in dessicator, weigh.
o	Dry in the oven (5 h), allow to cool to room temperature in dessicator with the cover closed, weigh.
p	Dry in the oven (5 h), allow to cool to room temperature in dessicator with the cover closed, weigh. Dry the sample again in the oven (1 h), cool in dessicator, weigh.

### 3.1.3 Drying programs

S = Standard

R = Rapid

L = LP16 Mode

## 3.2 Method collection

Product	Description	Method-ID	HB43-S Moisture Analyzer									Reference method (Drying oven)					
			Sample preparation	Sample weight [g]	Drying program	Temperature [°C]	Switch-Off criterion	Avg. [%MC Moisture]	Standard deviation (s)	Time [min]	Sample preparation	Process	Sample weight [g]	Temperature [°C]	Avg. [%MC Moisture]	Standard deviation (s)	Time [min]
Substance A	Default Method A	0000.0A	---	3	S	105	3	---	---	---	---	---	---	---	---	---	---
Substance B	Default Method B	0000.0B	---	3	S	105	3	---	---	---	---	---	---	---	---	---	---
<b>Meat, poultry (incl. eggs) and fish</b>																	
Egg yolk, powder	Powder	1510.01	2	5	S	125	3	3.76	0.01	4-5	28	k	2	103	3.76	<0.01	240
Poultry meat	Powder	1510.02	7	3	S	160	3	74.23	0.27	15	24	l	5	102	74.38	0.42	240
Beef meat	Lean meat with little connective tissue or fat	1510.03	7	3	S	150	3	75.04	0.10	15	24	l	5	102	74.95	0.02	240
Pork meat	Lean meat with little connective tissue or fat	1510.04	7	3	S	145	3	73.45	0.08	15	24	l	5	102	73.44	0.04	240
Egg powder	Powder	1510.05	2	5	S	125	3	5.18	0.03	5-6	28	k	1.5	103	5.18	<0.01	240
<b>Fruits, vegetables and nuts</b>																	
Apple juice	Clear fluid	1530.01	1	2	R	130	3	88.86	0.05	4.5	15	i	10	103	88.94	0.05	180
Apple pulp, dried	Powder, ground pulp	1530.02	2	4	S	105	3	8.39	0.07	7-8	28	h	5	103	8.42	0.05	240
Hazelnut, ground	Powder	1530.03	2	4	S	130	3	5.27	0.08	5-5.5	28	h	5	103	5.27	0.07	240
Carrot powder	Powder	1530.04	2	2	S	120	3	6.26	0.15	5	19	l	5	103	6.3	0.20	240
Carrot juice	Liquid, homogeneous	1530.05	1	3	R	135	3	90.46	0.03	7-8	16	i	21	103	90.51	0.01	180
Potato flakes	Loose flakes	1530.06	2	2	S	115	3	7.43	0.08	4-5	28	l	5	102	7.4	<0.01	240
Coconut, dried	Rasps	1530.07	2	4	S	115	3	1.68	0.03	4	28	l	5	102	1.68	<0.01	240
Almonds, ground	Powder	1530.08	2	5	S	130	3	5.73	0.05	7-8	28	l	5	102	5.71	0.02	240
Orange juice	Made of 100% oranges, from concentrate	1530.09	1	2	R	140	3	89.4	0.04	4.5-5	15	i	10	103	89.23	0.06	180
Tomato powder	Powder	1530.10	2	2	S	115	3	13.12	0.07	11-12	19	l	6	103	13.26	0.11	240
Tomato juice	Liquid, homogeneous	1530.11	1	3	R	130	3	95.22	0.05	7	15	i	41	103	95.32	0.04	180
Onion powder	Powder	1530.12	2	4	S	107	3	4.95	0.09	10	28	f	5	103	5.02	<0.01	300
<b>Oils and fats</b>																	
Margarine		1540.01	3	2	S	115	3	18.6	0.07	6-8	14	l	2	102	18.69	0.23	120
Butter		1540.02	3	3	S	110	3	15.11	0.09	5-6	14	l	2	102	15.13	0.07	240
<b>Milk products</b>																	
Cottage cheese		1550.01	9	3	S	170	3	82.65	0.10	16-18	22	l	2	102	82.77	0.13	120
Yogurt, plain	Yogurt (unskimmed milk)	1550.02	1	3	R	105	3	87.41	0.10	13	19	g	2.5	87	87.5	0.10	180
Coffee cream	Cream with 15% milk fat, liquid	1550.03	1	2	S	80	3	77.19	0.11	7-8	19	m	4.5	102	77.29	0.06	300
Cheese, Emmental	Hard cheese with > 35% fat	1550.04	10	3	S	110	3	31.48	0.18	25-28	23	l	2	102	31.99	0.03	240
Cheese, grated	Grated hard cheese, (Parmesan)	1550.05	2	3	S	130	3	29.99	0.13	9-10	22	l	2	102	31.16	0.31	240

Product Description Method-ID			HB43-S Moisture Analyzer								Reference method (Drying oven)						
			Sample preparation	Sample weight [g]	Drying program	Temperature [°C]	Switch-Off criterion	Avg. [%MC Moisture]	Standard deviation (s)	Time [min]	Sample preparation	Process	Sample weight [g]	Temperature [°C]	Avg. [%MC Moisture]	Standard deviation (s)	Time [min]
Cheese processed	Processed cheese with emulsifiers	1550.06	10	3	S	140	3	48.33	0.19	20	23	l	2	102	49.72	0.37	240
Cond. milk sweetend	Viscous liquid, sweetened	1550.07	1	2	S	145	3	25.77	0.17	10-13	17	h	2	102	25.67	0.11	240
Cond. milk unsweet.	Viscous liquid, non-sweetened	1550.08	1	2	S	140	3	74.6	0.17	8	17	h	6	102	74.56	0.08	240
Curd, low fat	Curd made of fully skimmed milk	1550.09	2	2.5	R	130	3	84.17	0.05	13-17	22	l	2.5	102	84.17	0.22	240
Milk, low fat	Skimmed milk containing 2.7% fat, homogenized	1550.10	1	2	R	80	3	88.4	0.07	5-6	20	e	5	102	88.41	0.01	120
Milk powder	Powder of milk with 2.7% milk fat	1550.11	2	3	S	110	3	4.61	0.10	6-7	28	h	2	102	4.67	0.02	240
Milkshake powder	Powder for instant beverage with vanilla flavoring	1550.12	2	3	S	115	3	0.49	0.03	1.5	28	e	5	102	0.49	0.01	120
Milk, chocolate	Milk with chocolate flavoring	1550.13	1	2	R	160	3	0.73	0.05	3	19	e	2.5	102	0.76	0.10	240
Milk, unskimmed	Unskimmed milk (3.8% milk fat)	1550.14	1	2	R	80	3	87.18	0.04	6	20	g	5	102	87.15	0.02	180
Cream, whole	Cream with 35% milk fat	1550.15	13	2	S	160	3	58.51	0.09	5-8	19	m	4	102	58.82	0.09	300
<b>Cereal grains and legumes</b>																	
Oats	Grains	1560.01	8	4.5	S	155	3	10.47	0.05	8	34	a	5	131	10.45	0.01	90
Oat flakes	Flakes	1560.02	8	4	S	150	3	10.96	0.04	5 - 6	34	a	5	131	10.91	0.01	90
Flour, wholemeal	Powder	1560.03	2	5	S	160	3	11.38	0.05	5 - 6	35	a	5	130-133	11.48	<0.01	90
Durum wheat	Granulate	1560.04	2	5	S	140	3	13.39	0.03	13	35	a	5	130	13.41	0.06	90
Millet	Grains	1560.05	8	4	S	145	3	10.22	0.09	10-11	34	a	5	130-133	10.25	0.05	90
Kidney beans	Beans	1560.06	8	4	S	115	3	13.5	0.04	9-10	27	l	5	102	13.51	0.01	240
Linseed, ground	Powder	1560.07	2	4	S	125	3	8.83	0.06	9	33	i	5	105	8.81	0.09	180
Lentils	Grains	1560.08	8	4	S	115	3	12.55	0.04	9-10	27	l	5	102	12.56	0.05	240
Corn meal, coarse	Granulate	1560.09	8	4	S	125	3	10.33	0.07	12-13	32	i	5	105	10.39	0.02	180
Corn starch	Powder	1560.10	2	3.5	S	160	3	12.12	0.08	4-5	35	a	5.5	130	12.21	<0.01	90
Corn meal, fine	Granulate	1560.11	2	5	S	160	3	14.54	0.03	11-12	35	a	5.5	130	14.56	<0.01	90
Rice	Grains	1560.12	8	5	S	150	3	11.34	0.08	15	34	a	5	131	11.29	0.10	90
Sesame, unpeeled	Grains	1560.13	2	4	S	130	3	5.19	0.04	9	35	a	5.5	133	5.22	0.04	90
Soybeans, granules	Granulate	1560.14	4	3	S	125	3	4.9	0.07	7	26	h	5	102	4.84	0.01	240
Soybean meal, fine	Powder	1560.15	2	4	S	115	3	6.32	0.04	5-6	28	l	4	102	6.36	0.01	240
Flour, white	Powder	1560.16	2	4	S	140	3	11	0.08	6 - 7	35	e	5	130	11.03	0.09	120
Wheat	Grains	1560.17	8	5	S	160	3	12.04	0.06	10	34	a	5	130	12.07	0.06	120
Couscous	Grains	1560.18	2	5	S	130	3	10.44	0.02	22	35	a	5	130	10.4	0.02	90
<b>Animal nutrition</b>																	
Poultry feed	Grains	1570.01	2	5	S	115	3	10.2	0.10	15.5	33	i	5	105	10.33	0.01	180
Pet feed for cats	Dry feed, "Pellets"	1570.02	4	4	S	115	3	3.37	0.04	6.5-7	31	i	5	105	3.36	0.06	180

Product	Description	Method-ID	HB43-S Moisture Analyzer								Reference method (Drying oven)						
			Sample preparation	Sample weight [g]	Drying program	Temperature [°C]	Switch-Off criterion	Avg. [%MC Moisture]	Standard deviation (s)	Time [min]	Sample preparation	Process	Sample weight [g]	Temperature [°C]	Avg. [%MC Moisture]	Standard deviation (s)	Time [min]
<b>Baked goods</b>																	
Cake	Homogeneous granulate	1581.01	6	4	S	120	3	4.59	0.08	8-9	21	l	5	103	4.51	0.07	240
Cake mix, chocolate	Baking mix with chocolate chunks	1581.02	2	5	S	160	3	5.09	0.15	4-5	35	a	5.5	130	5.25	0.16	90
Patisserie	Homogeneous cookie, sweetened, contains butter	1581.03	6	4	S	110	3	4.04	0.05	8-9	21	n	5	103	4.04	0.17	300
Pancake mix	Granulate, homogeneous and fine-grained	1581.04	2	5	S	160	3	12.03	0.25	6-9	35	a	5	130	12.09	0.04	90
Breadcrumbs	Powder	1581.05	2	4	S	135	3	7.25	0.05	9-10	35	a	5.5	130	7.32	0.02	90
Biscuit, Petit Beurre	Dry biscuit	1581.06	4	3	S	120	3	2.32	0.04	3-4	26	n	5	103	2.3	0.32	270
Toast bread		1581.07	6	3	S	135	3	7.08	0.06	7-8	21	l	5	103	7.08	0.42	240
Rusk		1581.08	4	4	S	115	3	3.77	0.04	7	26	l	4.5	102	3.75	0.01	240
<b>Chocolate and cocoa products</b>																	
Cacao powder	Powder	1584.01	2	2	S	100	3	3.05	0.06	3 - 4	28	l	5	102	3.02	<0.01	240
Chocolate, milk-	Chocolate bar (milk chocolate)	1584.02	10	3	S	105	3	84.78	0.05	4	18	l	5	102	84.73	0.28	120
Chocolate powder	Powder of chocolate	1584.03	2	3	S	105	3	1.09	0.05	2 - 3	28	l	5	103	1.08	0.01	240
Pudding, instant	Powder	1584.04	2	4	S	105	3	1.36	0.06	2-3	28	l	5	102	1.42	0.05	240
<b>Pasta</b>																	
Pasta	Dried pasta made of durum wheat	1585.02	8	4	S	145	3	10.9	0.10	13-14	34	a	5.5	130	10.9	0.03	90
Spaghetti	Dried pasta made of durum wheat	1585.03	8	4	S	145	3	8.65	0.08	14-15	34	a	5.5	130	8.6	0.09	90
<b>Tea and coffee</b>																	
Ice tea, instant	Powder for instant beverage, sweetened	1586.01	2	5	S	95	3	0.22	0.01	1.5	28	f	4	103	0.21	0.01	180
Tea, Green-	Loose Tea	1586.02	2	2.5	S	125	3	7.01	0.08	4-5	28	c	5	103	7.02	0.05	960
Coffee, ground	Powder of ground coffee beans	1586.03	2	3	S	120	3	4.42	0.03	4-5	28	p	5	103	4.46	0.01	360
Coffee, instant	Granules for instant coffee	1586.04	2	2	S	112	3	2.33	0.07	3 - 4	28	e	2	103	2.35	0.02	120
Lemon Tea, instant	Powder, sweetened	1586.05	2	4	S	110	3	1.83	0.09	3	28	g	4	103	1.9	0.03	180
Incarom, Inst.Coffee	Granules for instant coffee containing 23% chicory	1586.06	2	2	S	80	3	2.56	0.02	4-5	36	a	2	95	2.56	0.10	120
Tea, black	Loose tea, very fine broken leaves	1586.07	2	3	S	120	3	6.2	0.09	6	28	c	5	103	6.27	0.01	960
Tea, Earl Grey	Loose Tea	1586.08	2	3	S	123	3	5.21	0.06	5/6	28	c	5	103	5.23	0.03	960

Product	Description	Method-ID	HB43-S Moisture Analyzer								Reference method (Drying oven)						
			Sample preparation	Sample weight [g]	Drying program	Temperature [°C]	Switch-Off criterion	Avg. [%MC Moisture]	Standard deviation (s)	Time [min]	Sample preparation	Process	Sample weight [g]	Temperature [°C]	Avg. [%MC Moisture]	Standard deviation (s)	Time [min]
<b>Snacks, condiments and ready-made products</b>																	
Chips, plain	Potato chips, salted	1587.01	4	5	S	135	3	1.06	0.03	5-6	26	l	5	102	1.03	<0.01	240
Chips, paprika	Potato chips, salted and flavored with paprika	1587.02	4	5	S	122	3	1.38	0.04	7-8	26	l	5	102	1.42	0.01	240
Chips, tortillia	Corn chips, salted	1587.03	4	3	S	130	3	2.47	0.05	6	26	h	5	102	2.52	0.01	240
Cornflakes	Flakes	1587.04	4	3	S	130	3	4.15	0.04	7-8	26	l	5	102	4.19	0.01	240
Crackers, TUC	Salted crackers, brand 'TUC'	1587.05	4	3	S	100	3	1.94	0.04	4-5	26	l	5	103	1.88	0.02	240
Peanuts, roasted	Peanuts, roasted and salted	1587.06	5	5	S	130	3	1.51	0.05	6-7	30	l	5	102	1.53	<0.01	240
Peanut Puffs	Extruded product, based on peanuts, fried	1587.07	4	3	S	110	3	1.73	0.04	4	26	h	5	102	1.75	0.02	240
Ketchup		1587.08	11	4	S	125	3	69.4	0.06	20-21	19	l	2	102	69.29	0.06	240
Herbs, dried	Loose herbs	1587.09	2	2	S	120	3	10.15	0.10	4-5	28	l	4.5	103	10.11	0.02	240
Pepper, ground	Granulate, fine-grained	1587.10	2	2	S	135	3	10.82	0.12	4-5	28	h	5	102	10.7	0.05	240
Salad dressing light	Emulsion with herbs	1587.11	1	3	S	150	3	79.79	0.03	13-16	25	d	3	103	79.74	0.10	120
Salad dressing cream	Emulsion with herbs	1587.12	1	3	S	160	3	70.5	0.17	9-12	25	d	3	103	70.5	0.04	120
Sauce, instant curry	Powder	1587.13	2	4	S	100	3	4.62	0.04	6.5-7	28	l	5	103	4.64	<0.01	240
Mustard, fine	Paste, homogeneous texture	1587.14	11	2.5	S	160	3	75.89	0.20	12-16	25	h	2	102	75.8	0.37	240
Syrup, raspberry	Fluid, high sugar content	1587.15	1	3	S	90	3	31.17	0.53	20	15	i	8	103	31.04	0.16	180
Soup, instant powder	Powder	1587.16	2	3.5	S	115	3	5.54	0.05	5-6	19	l	5	103	5.54	<0.01	240
<b>Auxiliary agents</b>																	
Gelatine, edible	Granulate	1599.01	2	2	S	145	3	9.15	0.09	10-11	28	f	5	102	9.01	0.14	300
Pectin E440	Extracted apple pectin	1599.02	2	3	S	110	3	9.27	0.07	9-10	28	h	5	103	9.28	<0.01	240
Baking powder	Powder	1599.03	2	2	S	125	3	13.3	0.16	19	28	o	5	103	13.25	0.09	300
Yeast, dry	Powder	1599.04	2	2	S	120	3	9.17	0.09	4-5	28	h	5	102	9.1	0.07	240
Bouillon, paste	Paste, fat free	1599.05	2	2.5	S	105	3	1.33	0.03	2.5-3	19	l	6	103	1.35	0.03	240
Seasoning	Powder	1599.06	2	3	S	110	3	0.5	0.01	1-2	28	g	5.5	102	0.52	0.01	180
<b>Other substances</b>																	
Tobacco	Loose tobacco	1600.01	12	2	S	110	3	14.58	0.17	8-9	29	b	11	103	14.18	0.10	100
Sodium tartrate	Powder	1600.02	2	2.5	S	150	4	15.66	0.08	10	37	l	5	150	15.66	0.03	240

**To preserve the usefulness and value of your METTLER TOLEDO product on into the future, the METTLER TOLEDO maintenance contract guarantees you quality and measurement accuracy for years to come. Please learn more about our attractive terms of service.**

**Thank you.**



Subject to technical changes and to the availability of the accessories supplied with the instruments.

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