

**On approval of the natural norms of chemical reagents, laboratory glassware and field equipment during the monitoring and assessment of the ameliorative state of irrigated lands**

***Unofficial translation***

Order of the Deputy Prime Minister of the Republic of Kazakhstan - Minister of Agriculture of the Republic of Kazakhstan dated December 25, 2017 No. 513. Registered with the Ministry of Justice of the Republic of Kazakhstan on January 17, 2018 No. 16243.

      *Unofficial* *translation*

      In accordance with paragraph 2 of Article 69 of the Budget Code of the Republic of Kazakhstan dated December 4, 2008 **I ORDER**:

      1. To approve the attached natural norms of chemical reagents, laboratory glassware and field equipment during monitoring and assessment of the ameliorative state of irrigated lands.

      2. The committee on water resources of the Ministry of Agriculture of the Republic of Kazakhstan, in accordance with the procedure established by legislation, shall ensure:

      1) state registration of this order at the Ministry of Justice of the Republic of Kazakhstan;

      2) within ten calendar days from the date of state registration of this order sending its copy on paper and electronic form in the Kazakh and Russian languages ​​to the Republican state enterprise on the right of economic management "Republican Center for Legal Information" for official publication and inclusion into the Standard control bank of regulatory legal acts of the Republic of Kazakhstan;

      3) within ten calendar days after the state registration of this order, sending its copy for official publication in periodicals;

      4) placement of this order on the Internet resource of the Ministry of Agriculture of the Republic of Kazakhstan;

      5) within ten working days after the state registration of this order, submission of information about implementation of measures provided for in subparagraphs 1), 2), 3) and 4) of this paragraph to the Legal department of the Ministry of Agriculture of the Republic of Kazakhstan.

      3. Control over implementation of this order shall be entrusted to the supervising Vice-Minister of agriculture of the Republic of Kazakhstan.

      4. This order shall be enforced upon expiry of ten calendar days after its first official publication.

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|
*Deputy Prime-Minister*
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*of the Republic of Kazakhstan*
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*- Minister of Agriculture*
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*of the Republic of Kazakhstan*
 |
*U. Shukeyev*
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      "AGREED"

      Minister of Finance

      of the Republic of Kazakhstan

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. Sultanov

      dated December 28, 2017

|  |  |
| --- | --- |
|   | Approved by the order of the Deputy Prime-Ministerof the Republic of Kazakhstan - Minister of Agricultureof the Republic of Kazakhstandated December 25, 2017 № 513 |

 **Natural standards of chemical reagents, laboratory utensils and field equipment during monitoring and assessment of irrigated land reclamation condition**

      Footnote. Natural standards- in the wording of the order of the Minister of Agriculture of the Republic of Kazakhstan dated 21.01.2021 № 18 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|
№r/n |
Natural standard name |
Unit of measurement |
Standard in quantitative terms |
Service life, year |
Areas of application |
Distribution area |
Characteristics specifying the definition and application of natural standards |
|
1 |
2 |
3 |
4 |
5 |
6 |
7 |
8 |
|
Section 1. Standards of chemical reagents for 1 abbreviated chemical analysis |
|
Subsection 1. Laboratory analysis of groundwater |
|
1 |
Chloride of ammonia  |
gram |
0, 10 |
1 |
to define magnesium |
Republican State Institution "Zone Hydrogeological and Reclamation Center" of the Ministry of Agriculture of the Republic of Kazakhstan (hereinafter referred to as ZHGRC) Republican State Institution "South Kazakhstan Hydrogeological and Reclamation Expedition" of the Ministry of Agriculture of the Republic of Kazakhstan (hereinafter referred to as SKHGRE)
Republican State Institution "Kyzylorda Hydrogeological and Reclamation Expedition" of the Ministry of Agriculture of the Republic of Kazakhstan (hereinafter referred to as KHGRE)

  |
chemically pure, ammonium chloride, infusion |
|
2 |
Ammonia aqueous |
milliliter |
0, 50 |
1 |
to define magnesium |
25% solution, special purity, (r = 0.8), packing 1 liter (hereinafter referred to as l), ammonium hydroxide, synthetic alcohol |
|
3 |
Cationite KU-2 |
gram |
0, 50 |
1 |
to determine sulphates |
chemically pure |
|
4 |
Potassium chromate |
gram |
0, 10 |
1 |
to determine chlorine |
chemically pure, potassium chromate |
|
5 |
Potassium chloride |
milliliter |
0, 25 |
1 |
to determine the hydrogen index |
3 molar solution free of silver ions for silver chloride electrode |
|
6 |
Potassium permanganate |
gram |
0, 50 |
1 |
for washing utensils |
chemically pure, packing 0.5 kilograms (hereinafter referred to as kg) |
|
7 |
Methyl orange (indicator) |
gram |
0, 01
0, 01 |
1 |
for the determination of sulphates for the determination of carbonates and bicarbonates |
heliantine, acid orange |
|
8 |
Murexide (indicator) |
gram |
0, 01 |
1 |
to determine calcium |
ammonium purpurate |
|
9 |
Sodium hydroxide |
gram |
0, 48 |
1 |
to determine calcium |
chemically pure, caustic alkali |
|
10 |
Sodium chloride |
gram |
0, 125
0, 125 |
1 |
to determine calcium for the definition of magnesium |
chemically pure, table salt, galite, sodium chloride |
|
11 |
Hydrochloric acid |
milliliter |
0, 11 |
1 |
to determine sulphates |
chemically pure hydrochloric acid,
(r = 1,180 …1,185) |
|
12 |
Caustic silver |
gram |
0, 02 |
1 |
to determine chlorine |
chemically pure, silver nitrate |
|
13 |
Sulphuric acid |
milliliter |
0, 10 |
1 |
for washing utensils |
chemically pure, (r=1,75) |
|
14 |
Standard - hydrochloric acid titer |
milliliter |
0,48 |
1 |
to determine carbonates and bicarbonates |
normality of solution 0.1 |
|
15 |
Standard - sodium hydroxide titer |
milliliter |
1,20 |
1 |
to determine calcium |
normality of solution 0,1
  |
|
16 |
Standard - sodium chloride titer |
milliliter |
0,48 |
1 |
to determine chlorine |
normality of solution 0,1 |
|
17 |
Standard - Trilon B titer
  |
gram |
0, 060, 06 |
1 |
to determine calcium for the definition of magnesium |
normality of solution 0,1 |
|
18 |
Standard - buffer solution titer pH 4 |
milliliter |
0, 50 |
1 |
to determine the hydrogen index |
рН 4 |
|
19 |
Standard - buffer solution titer pH 7 |
milliliter |
0, 50 |
1 |
to determine the hydrogen index |
рН 7 |
|
20 |
Standard - buffer solution titer pH 10 |
milliliter |
0,50 |
1 |
to determine the hydrogen index |
рН 10 |
|
21 |
Ethyl alcohol |
milliliter |
0, 07 |
1 |
to determine carbonates and bicarbonates |
particularly pure, 70% |
|
22 |
Phenolphthalein |
gram |
0, 01 |
1 |
to determine carbonates and bicarbonates |
chemically pure, purgen |
|
23 |
Eriochrome black (indicator) |
gram |
0, 01 |
1 |
to define magnesium |
chemically pure, chromogen black ЕТ-00 |
|
Subsection 2. Laboratory analysis of surface water |
|
24 |
Ammonium chloride |
gram |
0, 10 |
1 |
to define magnesium |
ZHGRC, SKHGRE, KHGRE |
chemically pure, ammonium chloride, infusion |
|
25 |
Аммиак водный |
milliliter |
0, 50 |
1 |
to define magnesium |
25% solution, special purity, (r = 0.8), packing 1 l ammonium hydroxide, butter alcohol |
|
26 |
Cationite KU-2 |
gram |
0, 50 |
1 |
to determine sulphates |
chemically pure |
|
27 |
Potassium chromic acid |
gram |
0, 10 |
1 |
to determine chlorine |
chemically pure, potassium chromate |
|
28 |
Potassium chloride |
milliliter |
0, 25 |
1 |
to determine the hydrogen index |
3 molar solution free of silver ions for silver chloride electrode |
|
29 |
Potassium permanganate
  |
gram |
0, 50 |
1 |
for washing utensils |
chemically pure, packing 0.5 kg |
|
30 |
Methyl orange (indicator) |
gram |
0, 01 0, 01 |
1 |
for the determination of sulphates for the determination of carbonates and bicarbonates |
heliantine, acid orange |
|
31 |
Murexide (indicator) |
gram |
0, 01 |
1 |
to determine calcium |
ammonium purpurate |
|
32 |
Sodium hydroxide |
gram |
0, 48 |
1 |
to determine calcium |
chemically pure, caustic alkali |
|
33 |
Sodium chloride |
gram |
0, 125 0, 125 |
1 |
to determine magnesium calcium |
chemically pure, table salt, galite, sodium chloride |
|
34 |
hydrochloric acid |
milliliter |
0, 11 |
1 |
to determine sulphates |
chemically pure hydrochloric acid, (r = 1.180... 1.185) |
|
35 |
Nitric acid silver |
gram |
0, 02 |
1 |
to determine chlorine |
chemically pure, silver nitrate |
|
36 |
Sulphuric acid |
milliliter |
0, 10 |
1 |
for washing utensils |
chemically pure (r = 1.75) |
|
37 |
Standard - hydrochloric acid titer |
milliliter |
0,48 |
1 |
to determine carbonates and bicarbonates |
normality of solution 0,1 |
|
38 |
Standard - sodium hydroxide titer |
milliliter |
1,20 |
1 |
to determine calcium |
normality of solution 0,1 |
|
39 |
Standard - sodium chloride titer |
milliliter |
0,48 |
1 |
to determine chlorine |
normality of solution 0,1 |
|
40 |
Standard - Trilon B titer |
gram |
0, 06 0, 06 |
1 |
to determine calcium for the definition of magnesium |
normality of solution 0,1 |
|
41 |
Standard - buffer solution titer pH 4 |
milliliter |
0, 50 |
1 |
to determine the hydrogen index |
рН 4 |
|
42 |
Standard - buffer solution titer pH 7 |
milliliter |
0, 50 |
1 |
to determine the hydrogen index |
рН 7 |
|
43 |
Standard - buffer solution titer pH 10 |
milliliter |
0,50 |
1 |
to determine the hydrogen index |
рН 10 |
|
44 |
Ethyl alcohol |
milliliter |
0, 07 |
1 |
to determine carbonates and bicarbonates |
particularly pure, 70% |
|
45 |
Phenolphthalein |
gram |
0, 01 |
1 |
to determine carbonates and bicarbonates |
chemically pure, purgen |
|
46 |
Eriochrome black (indicator) |
gram |
0, 01 |
1 |
to define magnesium |
chemically pure, chromogen black ЕТ-00 |
|
Subsection 3. Laboratory analysis of soil |
|
47 |
Ammonium chloride |
gram |
0, 10 |
1 |
to define magnesium |
ZHGRC, SKHGRE, KHGRE |
chemically pure, ammonium chloride, infusion |
|
48 |
Ammonia aqueous |
milliliter |
0, 50 |
1 |
to define magnesium |
25% solution, special purity, (r = 0.8),
packing 1 ammonium hydroxide, saturated alcohol |
|
49 |
Cationite KU-2 |
gram |
0, 50 |
1 |
to determine sulphates |
chemically pure |
|
50 |
Potassium chromic acid |
gram |
0, 10 |
1 |
to determine chlorine |
chemically pure, potassium chromate |
|
51 |
Potassium chloride |
milliliter |
0, 25 |
1 |
to determine the hydrogen index |
3 molar solution free of silver ions for silver chloride electrode |
|
52 |
Potassium permanganate |
gram |
0, 50 |
1 |
for washing utensils |
chemically pure, packing 0.5 kg |
|
53 |
Methyl orange (indicator) |
gram |
0, 01 0, 01 |
1 |
for the determination of carbonates and bicarbonates |
heliantine, acid orange |
|
54 |
Murexide (indicator) |
gram |
0, 01 |
1 |
to determine calcium |
ammonium purpurate |
|
55 |
Sodium hydroxide |
gram |
0, 48 |
1 |
to determine calcium |
chemically pure, caustic alkali |
|
56 |
Sodium chloride |
gram |
0, 125 0, 125 |
1 |
to determine magnesium calcium |
chemically pure, table salt, galite, sodium chloride |
|
57 |
Hydrochloric acid |
milliliter |
0, 11 |
1 |
to determine sulphates |
chemically pure hydrochloric acid, (r = 1.180... 1.185) |
|
58 |
Nitric acid silver |
gram |
0, 02 |
1 |
to determine chlorine |
chemically pure, silver nitrate |
|
59 |
Sulphuric acid |
milliliter |
0, 10 |
1 |
for washing utensils |
chemically pure (r = 1.75) |
|
60 |
Standard - hydrochloric acid titer |
milliliter |
0,48 |
1 |
to determine carbonates and bicarbonates |
normality of solution 0,1 |
|
61 |
Standard - sodium hydroxide titer |
milliliter |
1,20 |
1 |
to determine calcium |
normality of solution 0,1 |
|
62 |
Standard - sodium chloride titer |
milliliter |
0,48 |
1 |
to determine chlorine |
normality of solution 0,1 |
|
63 |
Standard - Trilon B titer |
gram |
0, 060, 06 |
1 |
to determine magnesium calcium |
normality of solution 0,1 |
|
64 |
Standard - buffer solution titer pH 4 |
milliliter |
0, 50 |
1 |
to determine the hydrogen index |
рН 4 |
|
65 |
Standard - buffer solution titer pH 7 |
milliliter |
0, 50 |
1 |
to determine the hydrogen index |
рН 7 |
|
66 |
Standard - buffer solution titer pH 10 |
milliliter |
0,50 |
1 |
to determine the hydrogen index |
рН 10 |
|
67 |
Ethyl alcohol |
milliliter |
0, 07 |
1 |
to determine carbonates and bicarbonates |
particularly pure, 70% |
|
68 |
Phenolphthalein |
gram |
0, 01 |
1 |
to determine carbonates and bicarbonates |
chemically pure, purgen |
|
69 |
Eriochrome black (indicator) |
gram |
0, 01 |
1 |
to define magnesium |
chemically pure, chromogen black ET-00 |
|
Section 2. Standards of laboratory utensils for laboratory tests per 1000 conditional tests |
|
1 |
Bottle |
piece |
1 |
2 |
to collect distilled water |
ZHGRC, SKHGRE, KHGRE |
glass with plastic lid, volume 50,000 milliliters (hereinafter referred to as ml) |
|
2 |
Burette |
piece |
2 |
2 |
for liquid titration |
glass with division, 25 ml |
|
3 |
Funnel В-100-150-ХС |
piece |
2 |
2 |
for liquid transfusion |
glass, outer diameter 100 millimeters (hereinafter referred to as mm), total height 150 mm |
|
4 |
Funnel V-100-200-KhS |
piece |
2 |
2 |
for liquid transfusion |
glass, outer diameter 100 mm in, total height 200 mm |
|
5 |
Funnel В-150-230-ХС |
piece |
2 |
2 |
for liquid transfusion |
glass, outer diameter 150 mm, total height 230 mm |
|
6 |
 Funnel dividing, VD-3-500-KhS |
piece |
6 |
2 |
for cleaning from various substances |
glass, 500 ml |
|
7 |
Rubber pear, 50 |
piece |
1 |
2 |
for fast and safe dosing of liquid media |
rubber, soft tip, 50 ml |
|
8 |
Rubber pear, 100 |
piece |
1 |
2 |
for fast and safe dosing of liquid media |
rubber, with soft tip, 100 ml |
|
9 |
Glass flask, 250 |
piece |
12 |
2 |
for storage, mixing and reaction between liquids |
glass, heat-resistant, flat-bottomed with a long throat, 250 ml |
|
10 |
Glass flask, 500 |
piece |
12 |
2 |
for storage, mixing and reaction between liquids |
glass, heat-resistant, flat-bottomed with a long throat, 500 ml |
|
11 |
Erlenmeyer glass flask, 50 |
piece |
20 |
2 |
for titration, heating of chemical liquids |
glass, heat-resistant, flat-bottomed with wide throat, 50 ml |
|
12 |
Erlenmeyer glass flask, 100 |
piece |
25 |
2 |
for titration, heating of chemical liquids |
glass, heat-resistant, flat-bottomed with wide throat, 100 ml |
|
13 |
Erlenmeyer glass flask, 250 |
piece |
35 |
2 |
for titration, heating of chemical liquids |
glass, heat-resistant, flat-bottomed with wide throat, 250 ml |
|
14 |
Porcelain mug |
piece |
5 |
2 |
for storage and mixing of acidic, alkaline and neutral liquid |
porcelain with spout, 500 ml |
|
15 |
Glass stick |
piece |
2 |
2 |
for mixing liquids |
glass, diameter 7 mm, length 300 mm |
|
16 |
Glass pipette, 5 |
piece |
2 |
2 |
for accurate measurement of certain volumes of liquid |
glass measuring, 5 ml, fission price 0.1 ml |
|
17 |
Glass pipette, 10 |
piece |
2 |
2 |
for accurate measurement of certain volumes of liquid |
glass measuring, 10 ml, fission price 0.1 ml |
|
18 |
Glass pipette, 25 |
piece |
2 |
2 |
for accurate measurement of certain volumes of liquid |
glass measuring, 25 ml, fission price 0.2 ml |
|
19 |
Glass pipette, 100 |
piece |
2 |
2 |
to measure certain volumes of liquid |
glass, 100 ml, without division |
|
20 |
A glass В-1-50 |
piece |
2 |
2 |
for preparation of solutions, heating, measurement of liquids |
glass, tall, with spout and with one mark, 50 ml |
|
21 |
A glass V-1-100 |
piece |
2 |
2 |
for preparation of solutions, heating, measurement of liquids |
glass, high, with spout and with one mark, 100 ml |
|
22 |
A glass B-1-250 |
piece |
2 |
2 |
for preparation of solutions, heating, measurement of liquids |
glass, tall, with spout and with one mark, 250 ml |
|
23 |
A glass Н-1-1000 |
piece |
2 |
2 |
for preparation of solutions, heating, measurement of liquids |
glass, high, with spout and with one mark, 1000 ml |
|
24 |
A glass В-1-2000 |
piece |
2 |
2 |
for preparation of solutions, heating, measurement of liquids |
glass, tall, with spout and with one mark, 2000 ml |
|
25 |
Mortar with pestle |
piece |
2 |
2 |
for grinding and thorough mixing of solids |
porcelain, 500 ml, pestle length 14 centimeters (hereinafter referred to as sm), |
|
26 |
Cylinder 3-50-2 |
piece  |
2 |
2 |
to measure a certain volume of liquid and store it |
glass, three-dimensional with spout, 50 ml, 2nd class accuracy |
|
27 |
Cylinder 3-100-2 |
piece |
2 |
2 |
to measure a certain volume of liquid and store it |
glass, three-dimensional with spout, 100 ml, 2nd class accuracy |
|
28 |
Cylinder 3-250-2 |
piece |
2 |
2 |
to measure a certain volume of liquid and store it |
glass, 3-D with spout, 250 ml, 2nd class precision |
|
29 |
Cylinder 1-500-2 |
piece |
2 |
2 |
to measure a certain volume of liquid |
glass, one-dimensional with spout, 500 ml, 2nd class accuracy |
|
30 |
Cylinder 1-1000-2 |
piece |
2 |
2 |
to measure a certain volume of liquid |
glass, one-dimensional with spout, 1000 ml, 2nd class accuracy |
|
31 |
Washing bottle |
piece |
2 |
2 |
for washing laboratory utensils |
glass, with glass nozzle, capacity 250 ml |
|
32 |
Drip |
piece |
2 |
2 |
for dosing indicators and other solutions |
glass with pipette, 20 ml |
|
33 |
Desalted “White ribbon” filter |
piece |
100 |
2 |
for separation of coarse precipitation |
paper, diameter 18sm, medium filtration |
|
34 |
Desalted filter "Blue ribbon"
  |
piece |
100 |
2 |
for separation of fine sediment |
paper, diameter 18sm, slow filtration |
|
35 |
Filter paper |
packing |
1 |
2 |
for filtration of liquids |
paper |
|

Section 3. Position standards of field equipment  |
|
Subsection 1. Common use (for 1 field brigade) |
|
1 |
Tent for 4 people |
piece |
1 |
4 |
for protection against adverse weather conditions, temporary accommodation of workers in the field |
ZHGRC, SKHGRE, KHGRE |
waterproof with anti-mosquito filter, frame of dismountable alloy tubes, tent dimensions at least 220 \* 285 \* 235sm |
|
2 |
Set of folding furniture |
set |
1 |
4 |
for household needs |
table and 4 chairs made of low-melting material, disassembled in the case |
|
3 |
Gas stove |
piece |
1 |
4 |
for field cooking |
2- confluent, complete with 5 l gas cylinder, field |
|
4 |
Roulette |
piece |
1 |
2 |
for measurements of linear dimensions of objects in the field |
stainless steel tape, with a division price of 1 cm, on the drum, with a handle up to 30 meters long (hereinafter referred to as m) |
|
5 |
Flashlight |
piece |
1 |
2 |
for field lighting |
portable battery, moisture-resistant, LED, type of charge from the network |
|
6 |
Soldering lamp |
piece |
1 |
1 |
for household needs |
nozzle type lamp, thermal power within 0.5-3 kilowatts, with fuel supply adjustment |
|
7 |
Kettle |
piece |
1 |
2 |
for household needs |
metal, field with handle, volume up to 5 l |
|
8 |
Cutting board |
piece |
1 |
2 |
for household needs |
wooden, size 40x25sm |
|
9 |
Knife |
piece |
1 |
1 |
for household needs |
stainless steel with plastic handle |
|
10 |
Thermos |
piece |
1 |
2 |
for storage of food or water in the field |
stainless steel, portable, up to 5 l |
|
11 |
Kettle |
piece |
1 |
3 |
for heating and boiling of water in the field |
metal, with handle, volume up to 3 l |
|
12 |
Pan |
piece |
1 |
3 |
for field cooking |
metal with handles, volume 5 l |
|
13 |
Bayonet shovel |
piece |
1 |
3 |
For excavation plans |
hardened metal ladle coated with matte paint, dimensions 280 x 220 mm, ergonomic cuttings |
|
14 |
Scoop shovel |
piece |
1 |
3 |
for handling loose materials |
hardened metal ladle coated with matte paint, dimensions 280 x 230 mm, ergonomic cuttings |
|
15 |
Axe |
piece |
1 |
3 |
for household needs |
with a metal blade rigidly fixed on a wooden or plastic handle, walking |
|
16 |
Rope |
piece |
1 |
1 |
for household needs |
from deep or chemical fibers, up to 10 m long |
|
17 |
Galvanized bucket |
piece |
1 |
2 |
for household needs |
galvanized, volume up to 12 liters |
|
18 |
Plastic bucket |
piece |
1 |
2 |
for household needs |
plastic with lid, volume up to 12 liters |
|
19 |
Universal first aid kit |
piece |
1 |
1 |
for first aid in the field |
a set of medicines for first aid, in a plastic case |
|
Subsection 2. Individual use (per employee's 1) |
|
20 |
folding bed |
piece |
1 |
4 |
for domestic needs |
ZHGRC, SKHGRE, KHGRE |
framework of strong alloy pipe, maximum load up to 90 kg, weight up to 5.5 kg |
|
21 |
Bed linen |
set |
1 |
2 |
for domestic needs |
cotton, dimensions: blanket - 160 \* 220 cm, sheet - 180 \* 260 cm, pillowcase - 70 \* 70 cm |
|
22 |
Sleeping bag |
piece |
1 |
4 |
for domestic needs |
synthetic filler double-layer, length up to 230 cm, weight up to 2.5 kg |
|
23 |
Rucksack
  |
piece |
1 |
2 |
to carry various loads in the field |
anatomical "back," raincoat, volume up to 70 liters |
|
24 |
Towel |
piece |
1 |
1 |
for hygienic needs |
rustic towel , 120x60 sm |
|
25 |
Flask |
piece |
1 |
3 |
for field storage of drinking water |
metal, camping, volume up to 2 liters |
|
26 |
Mug  |
piece |
1 |
1 |
for domestic needs |
metal, 0,5 l |
|
27 |
Spoon-fork |
piece |
1 |
1 |
for domestic needs |
stainless steel |

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