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### INFLUENCE OF POLYCARBOXYLATE COMPLEXING AGENTS ON THE STABILITY OF ACTIVE CHLORINE IN SODIUM HYPOCHLORITE-BASED DISINFECTANTS

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**Abstract.** *The article investigates the effectiveness of various complexing agents for stabilizing active chlorine in sodium hypochlorite solutions. It is shown that traditional stabilizers, such as sodium gluconate, do not provide long-term stability, while phosphonate complexones and polycarboxylates significantly inhibit the decomposition of hypochlorite. The composition with the copolymer of acrylic acid and 2-acrylamido-2-methylpropanesulfonic acid demonstrated the highest stability over 90 days, with a loss of active chlorine of only 1,65 %.*

**Keywords:** sodium hypochlorite, active chlorine, stability, complexones, polycarboxylates, disinfection, food industry, acrylic acid, poly(acrylic acid), tetrasodium oxyethylidenediphosphonate, 2-acrylamido-2-methylpropanesulfonic acid

[1, 2].

[3].

[4-6].

(HEDP)

[7-8].

HEDP,

(PASS)

2-

-2-

(AA/AMPS)

4

1:

2:

3:

4:

( ) ;

(HEDP-4Na) –

(PASS);

2- -2-

(AA/AMPS).

70 / 3.

1.

1 –

		1	2	3	4
		+	+	+	+
		+	+	+	+
		+	–	–	–
(HEDP-4Na)		–	+	–	–
(PASS)		–	–	+	–
(AA/AMPS)	2- -2-	–	–	–	+

20±2 °C

0, 3, 5, 10, 20, 30, 45, 60 90

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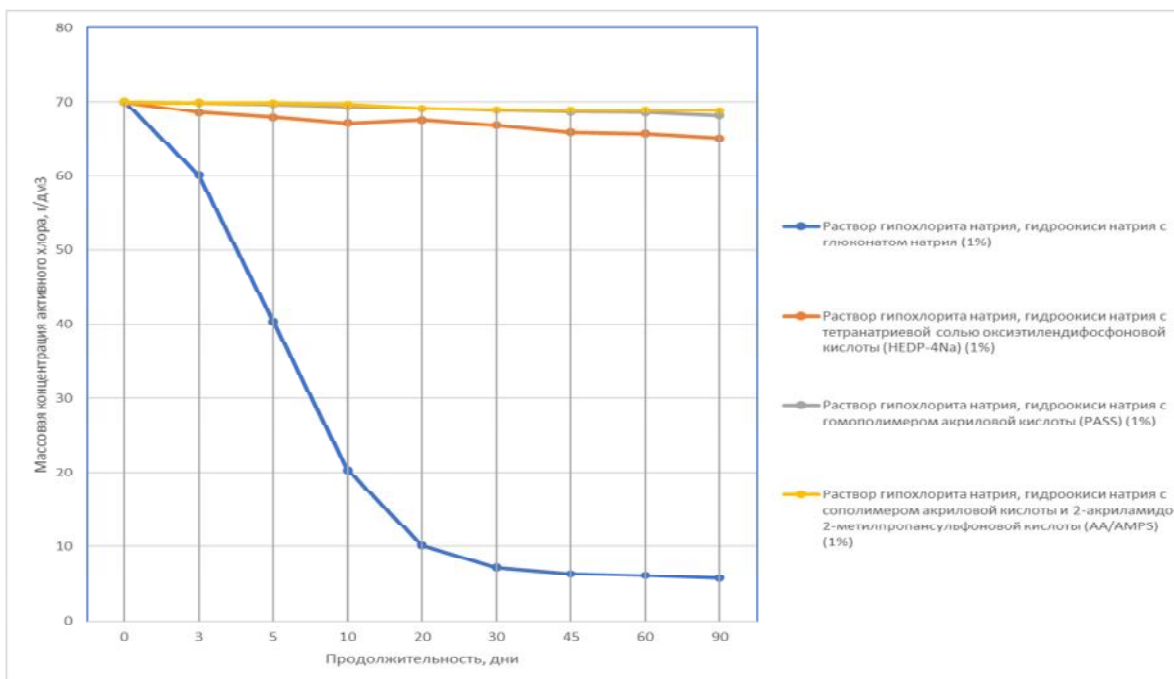
».

( 1).

2 –

, / 3\*

	0	3	5	10	20	30	45	60	90
1	70,00	60,13	40,32	20,32	10,10	7,23	6,32	6,11	5,71
2	70,00	68,56	67,91	67,11	67,54	66,81	65,90	65,70	65,10
3	70,00	69,89	69,71	69,41	69,11	68,90	68,63	68,54	68,11
4	70,00	69,91	69,87	69,65	69,11	68,91	68,90	68,88	68,84



1 –

1 ( ) 70 %, 90- 91,8 %.

2 (HEDP) 90 7 %.

3 4 ( PASS AA/AMPS) 90- 2,7 % PASS 1,65 % AA/AMPS.

AA/AMPS,

( « »), AA/AMPS,

[5].

HEDP-4Na

98,35 % 2- -2- 90 (AA/AMPS),

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