

乙二醛含量的测定

Method of Glyoxal content analysis

1.原理（催化法和酸碱中和法）

Principle(Catalytic method and acid and alkali Neutralization)

乙二醛与过量的氢氧化钠发生催化反应，生成羟基乙酸钠，剩下的氢氧化钠用盐酸标准溶液中和，以消耗盐酸标准溶液的量计算试样中乙二醛的百分含量。

Put Glyoxal with an excess of sodium hydroxide together,let them the catalytic reaction,Create sodium hydroxide .Then let the remaining sodium hydroxide Neutralization with hydrochloric acid standard solution ,according to the amount of consume the standard solution of hydrochloric acid to calculated the percentage of glyoxal in the sample.

乙醛酸中的游离酸用氢氧化钠标准液中和以消耗氢氧化钠标准溶液的量计算试样中游离酸的百分含量。

The Free acid in glyoxylic acid neutralize with sodium hydroxide standard solution,according to the amount consume of the sodium hydroxide standard solution to calculated the percentage of free acid in the sample.

2 .试剂和溶液

Reagent and solution

2、1 应符合 GB/T629、GB/T622、GB/T678、HG/T3448 的规定。

Need conforming to GB/T629、GB/T622、GB/T678、HG/T3448 regulations.

2、2 氢氧化钠标准溶液 C0.5mol/l

sodium hydroxide standard solution C0.5mol/l

2、3 盐酸标准溶液 C0.5mol/l

hydrochloric acid standard solution C0.5mol/l

3 .测定步骤

Test steps

准确称取样品 1.0g 于 250 毫升碘量瓶中，加水 30 毫升，加酚酞指示剂 2-3 滴，用 0.5mol/l 的氢氧化钠标准溶液滴定至粉红色为终点，记下读数为 V1,其后加入 10 毫升 0.5mol/l 的氢氧化钠标准溶液。成品在室温下于冷水中静置 30 分钟。再用 0.5mol/l 的盐酸标准溶液滴定至红色褪去为终点 (V2)，用相同的方法进行空白试验 (V0)，用酚酞辨认。

Accurately weighed sample 1.0g ,put it in 250ml iodine flask,then add 30ml water,add 2-3 drops of Phenolphthalein indicator,with sodium hydroxide standard solution C0.5mol/l titration to pink as the end,note the reading as V1.Then add 10ml sodium hydroxide standard solution C0.5mol/l.put the finished product in cold water keep 30 minutes in standard

room temperature. Then use hydrochloric acid standard solution 0.5mol/l titration to red fade as the end (V2), using the same method make blank test (V0), using phenolphthalein to distinguish.

4 乙二醛含量% (X) 按下式计算

Glyoxal content%(x) calculation formula:

$$X = (V_0 - V_2) \times C \times 2.9 \times 100\% / W$$

式中: X 为乙二醛的百分含量 (%)

X is the percentage of glyoxal (%)

V0 为空白实验所消耗的盐酸标准溶液的体积

V0 is the volume consume of hydrochloric acid standard solution in blank test

V2 为试样实验所消耗的盐酸标准溶液的体积

V2 is the volume consume of hydrochloric acid standard solution in sample test.

C 为盐酸标准溶液的浓度 0.5mol/l

C is the concentration of hydrochloric acid standard solution(0.5mol/l).

W 为式样的质量

W is the weight of the sample

2.9 为乙二醛的克当量

2.9 is the weight of glyoxal

5.允许差

Allowable error:

取两次平行测定结果的算术平均值为测定结果，平行测定结果的绝对差值不大于 0.20%。

Take two parallel determination results of arithmetic mean as the determination results,the absolute difference between the parallel determination results is not more than 0.20%.