

环氧丙烷中的甲醛分析气相色谱仪

Analysis of formaldehyde in propylene oxide by gas chromatograph

Formaldehyde, chemical formula HCHO , type 30.03, also known as formaldehyde. Colorless gas with a special odor stimulation, to the eyes, nose, etc. a stimulating effect, relative density of gas 1.067 (air = 1), liquid density 0.815g/cm³ (-20 DEG C). Melting point -92 C, boiling point -19.5. Soluble in water and ethanol. Aqueous solution of the highest concentration of up to 55%, usually 40%, called the formaldehyde water, commonly known as Faure Marin (formalin), is to stimulate the smell of colorless liquid.

There is a strong reduction, especially in the alkaline solution. Can burn, vapor and air to form an explosive mixture, the explosion limit of 7%–73% (volume). Ignition temperature of about 300.

The formaldehyde can be prepared from methanol in the presence of a metal catalyst such as silver, copper and the like, and can also be separated from the oxidation products of hydrocarbons. Raw material used as pesticides and disinfectant, phenolic resin, urea formaldehyde resin, vinylon, urotropine, pentaerythritol and dyes.

Industrial products formaldehyde solution generally contain 37% formaldehyde and 15% methanol, as inhibitor, boiling point 101.

Chlorohydrin production of propylene oxide with the impurities except for acetaldehyde, propionaldehyde and hydrocarbon, epoxides, halogenated alkanes, acetone, alcohols, such as. Determination of trace impurities in propylene oxide by gas chromatography with hydrogen flame ionization detection. Recently because of the purity of epoxy propane put forward higher requirements, need to detect 40 ppm total aldehyde content, and in gas chromatography, due to propionaldehyde peak is in the epoxy propane large peak of the tail.

The analysis of the Technology Co., Ltd. Tengzhou City Xiangying by XiangyingGC7990plus a gas chromatograph, the successful determination of the formaldehyde in the epoxy propane with satisfactory results.

甲醛，化学式 HCHO ，式量 30.03，又称**蚁醛**。无色气体，有特殊的刺激气味，对人眼、鼻等有刺激作用，气体相对密度 1.067(空气=1)，液体密度 0.815g/cm³ (-20°C)。熔点-92°C，沸点-19.5°C。易溶于水和乙醇。**水溶液**的浓度最高可达 55%，通常是 40%，称做甲醛水，俗称**福尔马林** (formalin)，是有刺激气味的无色液体。

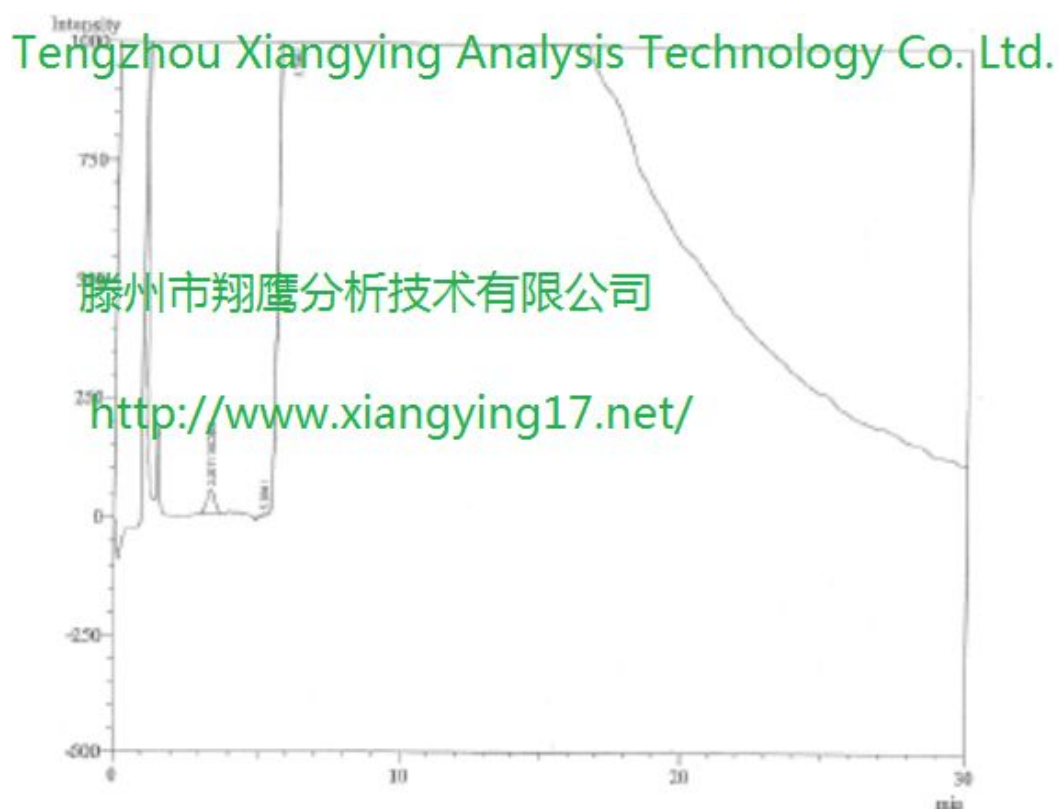
有强还原作用，特别是在**碱性**溶液中。能燃烧，蒸气与空气形成爆炸性混合物，爆炸极限 7%–73% (体积)。着火温度约 300°C。

甲醛可由甲醇在银、铜等金属催化下脱氢或氧化制得，也可由烃类氧化产物分出。用作农药和消毒剂，制酚醛树脂、脲醛树脂、维纶、乌洛托品、季戊四醇和染料等的原料。

工业品甲醛溶液一般含 37%甲醛和 15%甲醇，作阻聚剂，沸点 101℃。

用氯醇法生产的环氧丙烷中所含杂质除有乙醛、丙醛外，还有烃类、环氧化物、卤代烷、丙酮、醇类等。对环氧丙烷中痕量杂质总醛的测定，常采用氢火焰离子化检测的气相色谱法。最近由于对环氧丙烷的纯度提出更高的要求，需检测 40ppm 以下的总醛含量，而在气相色谱法中，由于丙醛峰正处在环氧丙烷大峰的尾部上。

滕州市翔鹰分析技术有限公司采用 XiangyingGC7990plus 气相色谱仪，成功测定了环氧丙烷中的甲醛，结果满意。



色谱图

XiangyingGC7990plus features:

- 1 excellent performance, competitive price, to meet the customers' choice
- 2 multi industry adaptability
- 3 outstanding performance in all kinds of harsh environment

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A variety of sampling ports can be equipped with: packed column inlet, shunt / non shunt capillary inlet,

Hydrogen flame ionization detector (FID)

Maximum use temperature: 400

The minimum detection limit: $-12 = 2.5 \times 10^{-12}$ g/s (n-C16)

Linear range: 107 (+ 10%)

XiangyingGC7990plus 特点:

1. 卓越的性能, 具有竞争力的价格, 满足广大客户的选择
2. 多行业适应性
3. 在各种苛刻环境下均表现出色

进样口

多种进样口可配: 填充柱进样口、分流/不分流毛细管进样口、**氢火焰离子化检测器 (FID)**

最高使用温度: 400°C

最小检出限: $\leq 2.5 \times 10^{-12}$ g/s (n-C16)

线性范围: 107 ($\pm 10\%$)