

ACRYLONITRILE



CAS Number: 107-13-1

Other Names: 2-Propenenitrile, Acrylonitrile, Cyanoethene,
Vinyl cyanide (VCN), Cyanoethylene, Propenenitrile

Formula: CH₂CHCN

PRODUCT INTRODUCTION

Acrylonitrile is an organic compound with the formula CH₂CHCN. It is a colorless volatile liquid, although commercial samples can be yellow due to impurities. In terms of its molecular structure, it consists of a vinyl group linked to a nitrile. It is an important monomer for the manufacture of useful plastics such as polyacrylonitrile.

PHYSICAL AND CHEMICAL PROPERTIES

Acetone	LT 10 wt. ppm
Acetonitrile	LT 10 wt. ppm
Acidity (As Acetic Acid)	19 wt. ppm
Acrolein	5.1 wt. ppm
Aldehydes as Acetaldehyde	LT 10 wt. ppm
Appearance	Clear, Free of Suspended matter
Copper(Cu)	0.02 wt. ppm
Color (APHA)	LT5
Distillation Range at 760mmHg (97%)	74.7 ~ 79.0°C
Hydrogen Cyanide (HCN)	1 wt. ppm
Inhibitor (MEHQ)	42 wt. ppm
Iron (Fe)	0.05 wt. ppm
Non-Volatile matter	LT 25 wt. ppm
Oxygen Bomb Stability	MT 4 Hour
Peroxide	LT 0.05 wt. ppm
pH 5% Aqueous Solution	6.8
Purity	99.58 wt. %
Refractive Index	1.3890
Specific Gravity 25/15.5°C	0.8012
Titration Value ml of 0.1N-H ₂ SO ₄ to give pH of 5.0	LT 0.5 ml
Water	0.41 wt. %

APPLICATIONS

- Acrylonitrile is used principally as a monomer to prepare the polyacrylonitrile, a homopolymer, or several important copolymers such as styrene-acrylonitrile (SAN), acrylonitrile butadiene styrene (ABS), acrylonitrile styrene acrylate (ASA) and other synthetic rubbers such as acrylonitrile butadiene (NBR). Dimerization of acrylonitrile affords adiponitrile, used in the synthesis of certain polyamides.
- Small amounts are also used as a fumigant.
- Acrylonitrile and derivatives such as 2-chloro-acrylonitrile are dienophiles in Diels-Alder reactions.
- Acrylonitrile is also a precursor in the industrial manufacture of acrylamide.

PACKAGING OPTIONS

Drums

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