



PRODUCT IN FOCUS



Acetonitrile

INTRODUCTION

Acetonitrile (ACN) is a highly polar, volatile, colorless liquid with ethereal odor and is the simplest organic nitrile widely used as a solvent.

The nitrile group constitutes active part of the molecule. It participates in various reactions that lead to number of nitrogen containing organic molecules.

Manufacture

ACN is manufactured on large scale by addition of ammonia in propylene, acrylonitrile being the by-product.

Synonyms	Methyl Cyanide Cyanomethane
CAS no.	75-05-8
EINECS no.	200-835-2
Molecular formula	C ₂ H ₃ N
Molecular weight	41.05
Structure	$\begin{array}{c} \text{H} \\ \\ \text{H}-\text{C}-\text{C}\equiv\text{N} \\ \\ \text{H} \end{array}$

Industrial Applications

ACN has excellent solubilizing properties. These enable its use as a useful solvent in synthesis and purification processes of distillation and recrystallization.

Commonly occurring uses as solvent are in:

- ✔ High pressure liquid chromatographic (HPLC) analysis as an eluent.
- ✔ Butadiene extraction in Petro refineries.
- ✔ Manufacture of insulin, vitamins, amino acids and photographic films.
- ✔ Lithium batteries.
- ✔ Non-aqueous reactions that employ AlCl₃ and PCl₃.
- ✔ Manufacture of flame retardants.
- ✔ Extraction of fatty acids from vegetable oil.
- ✔ Chemical intermediate and solvent for perfumes.
- ✔ Catalyst and component of transition-metal complex catalysts.
- ✔ Solvent for DNA synthesis and Peptide sequencing.
- ✔ Solvent for spinning synthetic fibers.
- ✔ Casting and moulding plastics.



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Intermediates

The nitrile group being reactive, ACN acts as a key raw material in production of:

Acetamidine hydrochloride

Acetoguanamine

β -Aminocrotononitrile

2,4-Dihydroxy acetophenone

2,6-Dihydroxy acetophenone

Geranonitrile

Malononitrile

Triethyl orthoacetate

Sulphapyrimidines

O,N-bis(trimethylsilyl)acetamide

Applications in APIs

As a key raw material in the early manufacturing stages of:

Sulfisomidine Antibacterial

Pyritinol Nootropic

Cromolyn Antiasthma /
Antiallergic

Alprazolam Anxiolytic

Diazoxide Antihypertensive /
Hyperglycemia

Triazolam Hypnotic

As an essential raw material in the ultimate synthesis step of:

Amantadine Antiviral /
Antiparkinsonian

Sulphaphenazole Antibacterial

Agrochemicals

Isoxaben Herbicide



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SPECIFICATIONS

Test	Unit	Specification
Appearance	-	Clear colorless liquid, free from extraneous matter.
Identification (By GC)	-	Retention time of the main peak in the test sample chromatogram should match with that of the standard.
Purity (By GC)	%	Min 99.0
Moisture Content (By KF)	%	Max 0.2
Miscibility	-	Miscible with methanol.
Non-volatile matter	%	Max 0.1

REACH status

Acetonitrile offered by ExSyn is registered under EU REACH regulations.

STORAGE

Product is stored at ambient temperature.

PACKING

Drum & ISO-tank

ExSyn offers acetonitrile on commercial scale and welcomes enquiries. No matter the quantity you need, our exceptional quality and service will make ExSyn your supplier of choice! If you need any additional information or SDS, please get in touch with us.