

India

**Underweight** (no change)

**Highlighted Companies**

**Vinati Organics**

**HOLD, TP Rs1798, Rs1889 close**

While the rise in acrylonitrile prices can negatively impact ATBS margins, the huge growth opportunity is present in the butyl phenol market. The risk-reward ratio is balanced. We retain our HOLD rating on the stock.

**Summary Valuation Metrics**

P/E (x)	Mar22-A	Mar23-F	Mar24-F
Vinati Organics	49.59	42.62	0
P/BV (x)	Mar22-A	Mar23-F	Mar24-F
Vinati Organics	10.66	8.94	7.5
Dividend Yield	Mar22-A	Mar23-F	Mar24-F
Vinati Organics	0.46%	0.54%	0.64%

# Chemicals - Overall

## Acrylonitrile prices to rise, acetonitrile to fall

- Global demand slowdown is leading to a fall in acrylonitrile (ACN) prices and the spreads which are touching -1SD of the long-term mean currently. China's economy reopening will lead to a rise in demand and production of acrylonitrile.
- Rising propylene and ammonia prices will lead to a raw material-cost led impetus to acrylonitrile prices. Please note that ammonia prices are dependent on liquefied natural gas prices (LNG) in a big way, which are likely to go up.
- Increased production of acrylonitrile will lead to higher supply of acetonitrile and hence, a likely fall in its prices. Falling acetonitrile prices are negative for Balaji Amines (UNRATED) and Alkyl Amines (UNRATED).

### China's reopening to lead to a rise in acrylonitrile output and prices

A big section of street is bullish on all commodities because of the likely reopening of China's economy after its stringent 'Zero Covid Policy' being toned down. China's economy reopening is positive for LNG demand (Chinese demand in CY22 was down by ~16-17%) which, in turn, is positive for ammonia prices. Also, in our base case, we expect crude oil prices to rise (please see our earlier report: [IN: Oil & Gas - Overall - 2nd round of energy inflation on the horizon](#)) which should lead to a rise in propylene prices. These two are the inputs to manufacture acrylonitrile, which is not a highly oversupplied commodity (global capacity utilization is higher than 85-90%) and hence, we expect a cost-driven rise in acrylonitrile prices (please note that currently acrylonitrile spreads over raw material are near -1 SD of the long-term mean).

### Rise in acrylonitrile production is negative for acetonitrile prices

For Indian amine compound manufacturers like Balaji Amines and Alkyl Amines, acetonitrile spreads are already falling as the raw material cost is rising. Going ahead, they will face a double whammy as the rise in acrylonitrile production will lead to higher acetonitrile supply and hence, acetonitrile prices will fall. Please note that the key inputs for making acetonitrile are ammonia and acetic acid for Indian companies.

### Vinati Organics can face headwinds; retain HOLD rating

Vinati Organics can face headwinds in its ATBS (2-acrylamido-2-methylpropane sulfonic acid) business, but we are very bullish on its butyl phenol business. The stock has underperformed for some time but at this point we believe the risk-reward ratio is balanced and hence, we retain our HOLD rating on the stock with a target price of Rs1,798.

**Analyst(s)**



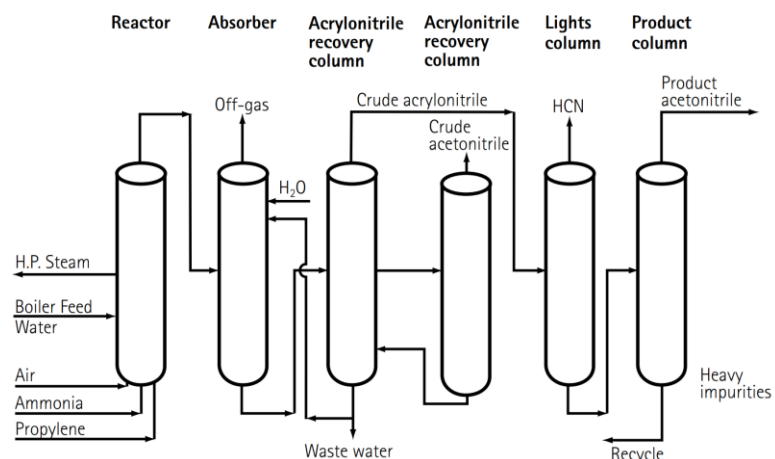
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**Figure 1: As is evident in this chemical process, acetonitrile comes as a by-product**

Table 2.1 Acrylonitrile process



SOURCE: INCRED RESEARCH, COMPANY REPORTS

## Acrylonitrile prices to rise, acetonitrile to fall

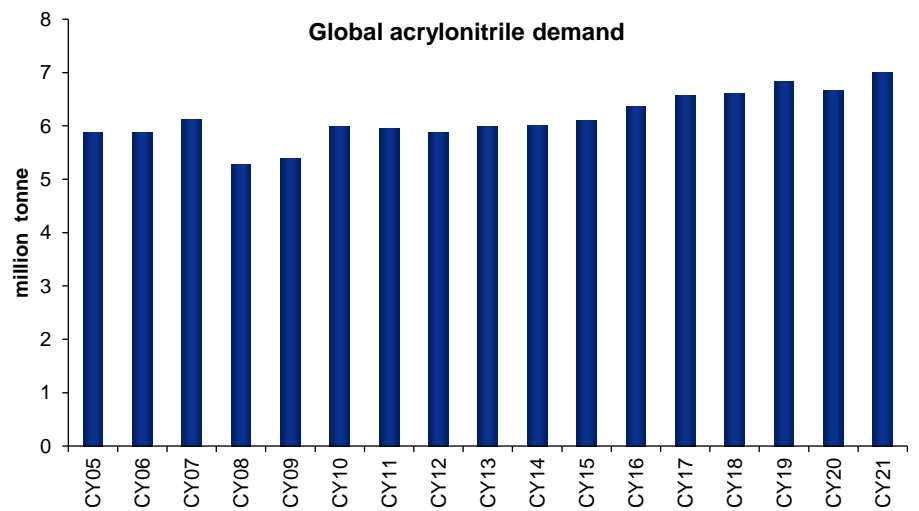
Acrylonitrile is an important ingredient for manufacturing ATBS and various other compounds like acetonitrile. Acrylonitrile is manufactured by the reaction of propylene and ammonia in the presence of oxygen. Rising ammonia and propylene prices will lead to a rise in the prices of acrylonitrile, which is negative for users like Vinati Organics (HOLD), Balaji Amines (UNRATED) and Alkyl Amines (UNRATED).

### Globally, acrylonitrile is an oversupplied commodity

**Demand for acrylonitrile has been growing at a 1.1% CAGR over the last 16 years ➤**

Acrylonitrile demand has been growing at a 1.1% CAGR over the last 16 years.

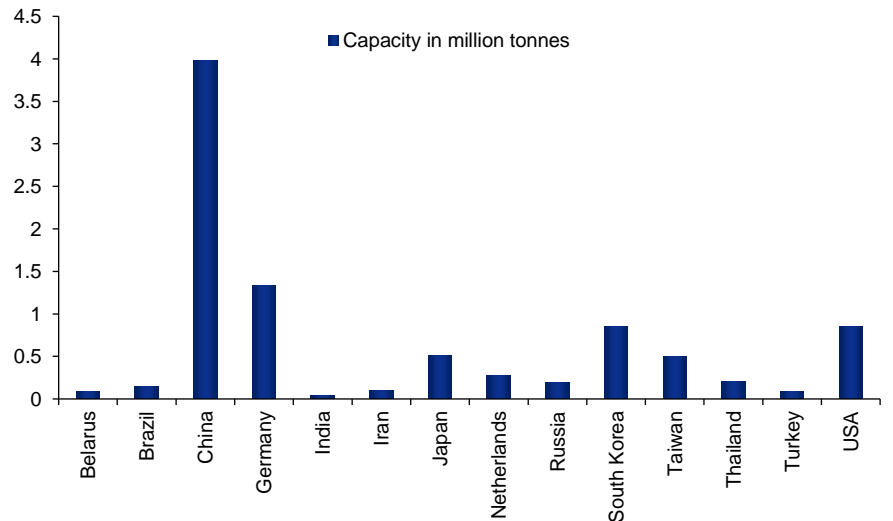
**Figure 2: Globally, the demand for acrylonitrile has been growing at a very tepid pace of 1.1% CAGR**



SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Like most other chemicals, China has approximately 45% of the global acrylonitrile capacity ➤**

**Figure 3: With a 4mt capacity, China is the largest supplier of acrylonitrile in the world; Indian capacity is only 41kt**



SOURCE: INCRED RESEARCH, COMPANY REPORTS

## Acrylonitrile has multiple usage globally - its demand is mostly dependent on the state of the economy ➤

Acrylonitrile (ACN) is a commodity petrochemical produced primarily from propylene and ammonia. It is used in the production of a wide range of chemical products like:

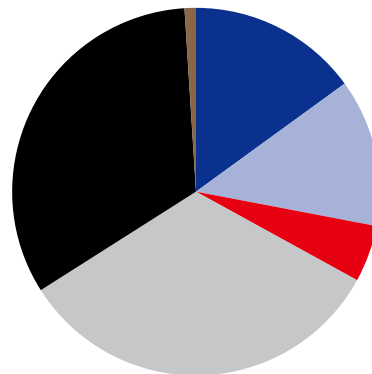
- ABS/SAN resins,
- Acrylic fibres,
- Acrylamide,
- Nitrile rubber,
- Adiponitrile,
- Carbon fibres.

Acrylonitrile demand is dependent on the state of the economy, as witnessed during the global recession amid the Covid-19 pandemic. Most of ACN's major end-use markets (ABS/SAN resins, acrylic fibres, and adiponitrile) are cyclical in nature and are therefore directly affected by economic downturns, especially when consumer spending contracts. Conversely, the acrylamide and nitrile rubber markets have shown more resilience over the past 10 years. Acrylamides are essentially used to produce polyacrylamides (PAM), which are primarily used in wastewater treatment applications. The nitrile rubber market has been positively influenced by the fast-rising production of nitrile gloves, which are used primarily in the resilient and growing healthcare segment. However, both these end-use markets are quite small in size.

## Apart from being the largest producer, China is the biggest user of ACN as well ➤

**Figure 4: China accounts for 33% of the global consumption of ACN and hence, a slowdown or closure of China's economy leads to fall in acrylonitrile profitability**

■ North and South America    ■ Western and Central Europe    ■ Middle East  
 ■ Mainland China    ■ Other Asia    ■ Other

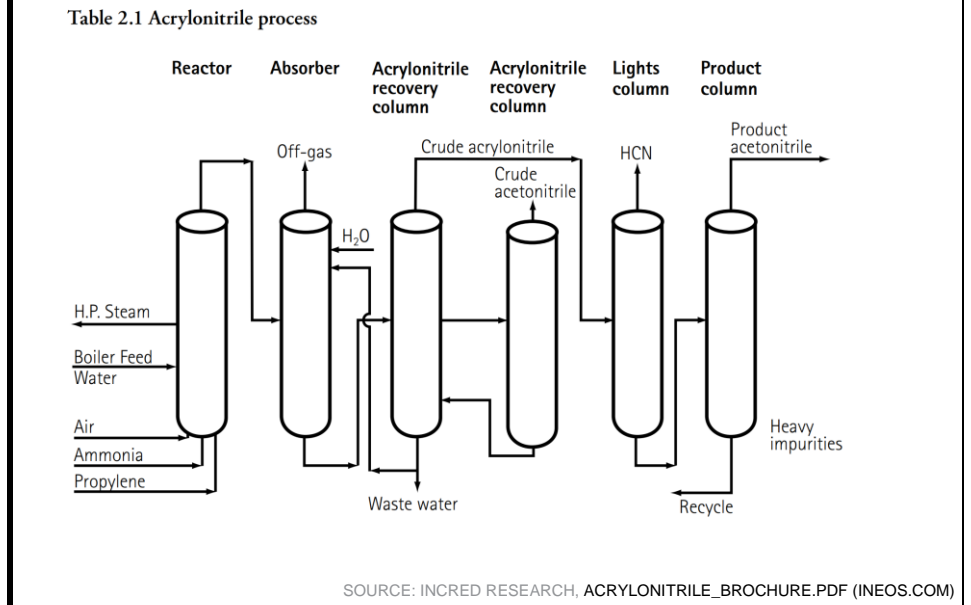


SOURCE: INCRED RESEARCH, COMPANY REPORTS

## ACN is mostly produced from the ammoxidation of propylene and ammonia in the presence of oxygen ➤

Acrylonitrile is manufactured by combining propylene, ammonia and air in a process called ammoxidation. During ammoxidation, propylene, ammonia and air are fed through a catalyst at a high temperature.

**Figure 5: The INEOS process of making acrylonitrile is given below; as is evident in this chemical process, acetonitrile comes as a by-product**



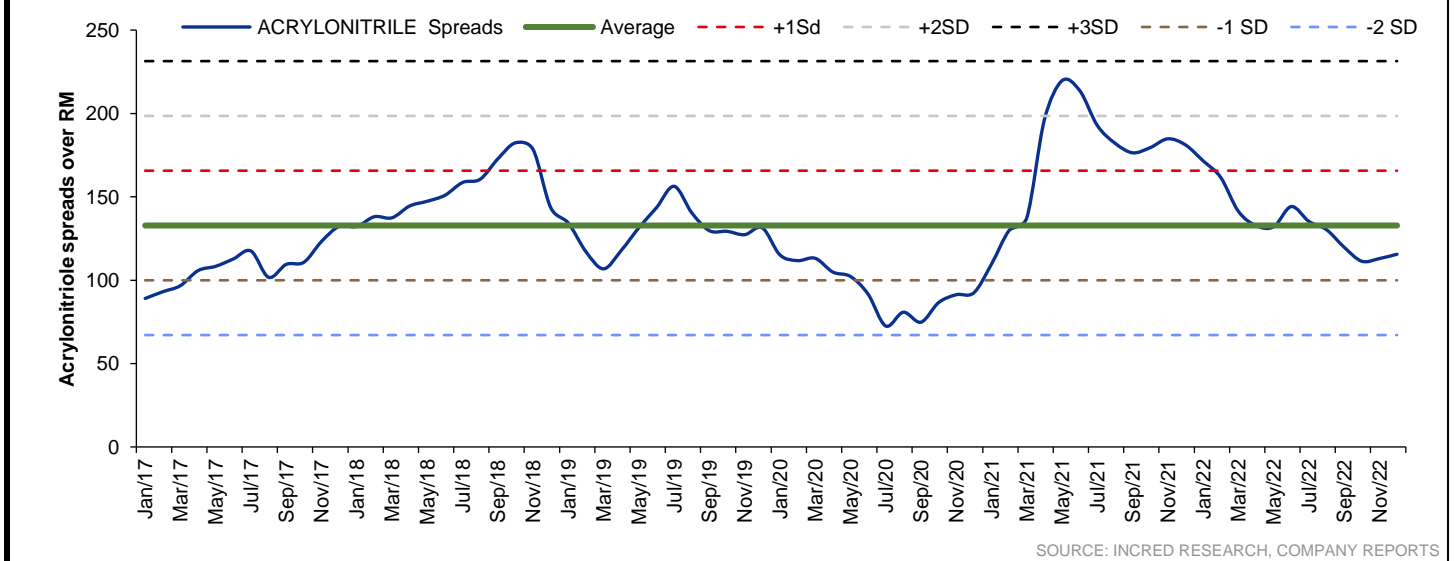
**Hence, during a global slowdown, while acrylonitrile production/demand goes down, at the same time acetonitrile supply declines as well ➤**

During a supply chain crisis or unseasonal shutdowns, acrylonitrile demand as well as supply goes down. This leads to a fall in acrylonitrile prices, but the production of acetonitrile also suffers which leads to an expansion in product spreads of acetonitrile.

**Over the last few months, ACN spreads over raw material are declining ➤**

The global slowdown and a closed Chinese economy are affecting ACN demand, leading to the fall in spreads of ACN over its raw materials - ammonia and propylene.

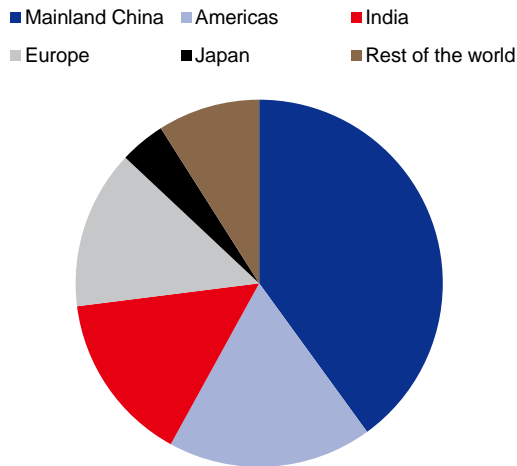
**Figure 6: ACN's spreads over its raw materials are a neat -1SD of the long-term mean value**



**Globally, almost 25% of acetonitrile production comes from acrylonitrile ➤**

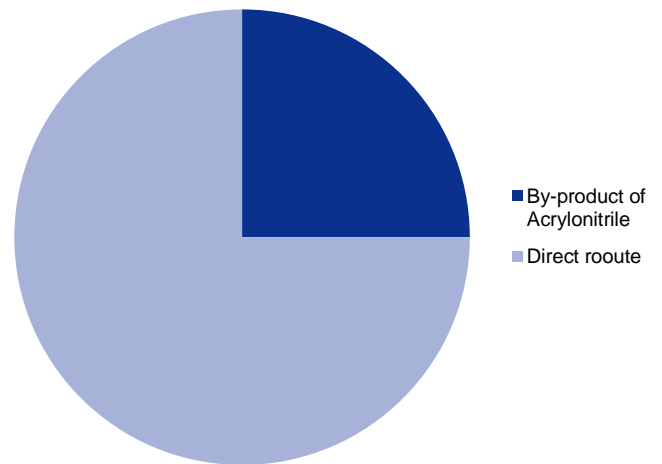
In the global context, almost 25% of acetonitrile comes as a by-product of acrylonitrile production. Globally, the top 5 manufacturers are INEOS Nitriles, Ascend Performance Materials, Tongsoh Petrochemical, Shanghai SECCO, and Sailboat Petrochemical/Honggang Petrochemical. Their combined production capacity stands at 41.6% of global total capacity.

**Figure 7: Almost 40% of global acetonitrile production is from mainland China**



SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 8: 25% of global acetonitrile production comes as a by-product of acrylonitrile**



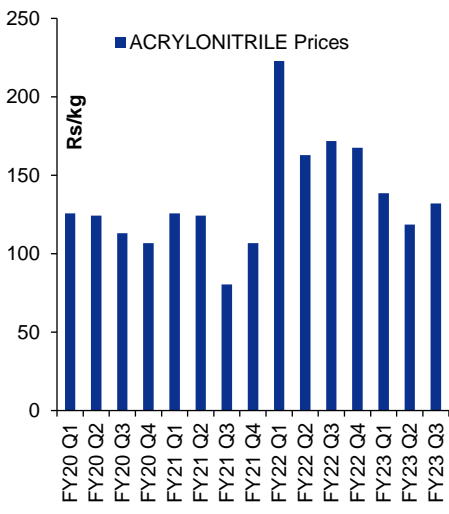
SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Indian companies buy acrylonitrile from the international market and make ATBS; depressed prices of ACN led to higher spreads for these companies ➤**

Indian companies like Vinati Organics import acrylonitrile to make ATBS. The decline in production volume of ACN helps Balaji Amines and Alkyl Amines as acetonitrile prices go up. In the past few quarters, they are having the best of times because of the following reasons:

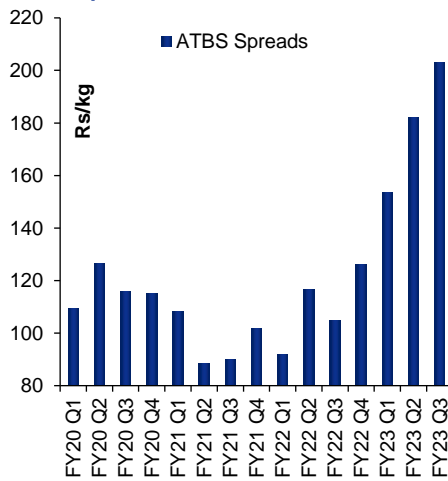
1. Due to the rise in crude oil prices, ATBS prices are going up but because of China slowdown, ACN prices are down which is leading to a rise in ATBS spreads.
2. Also, lower ACN production means higher acetonitrile prices as a bulk portion of acetonitrile comes from the ACN production process.
3. Hence, acetonitrile prices are rising, which is leading to still respectable profitability for Balaji Amines and Alkyl Amines.
4. Please note that Balaji Amines as well as Alkyl Amines make acetonitrile from the catalytic reaction of ammonia, acetic acid and caustic soda.

Figure 9: ACN prices have declined...



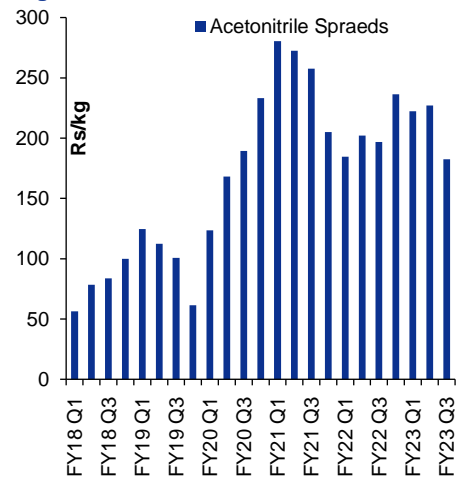
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 10: ...which led to the rise in ATBS spreads



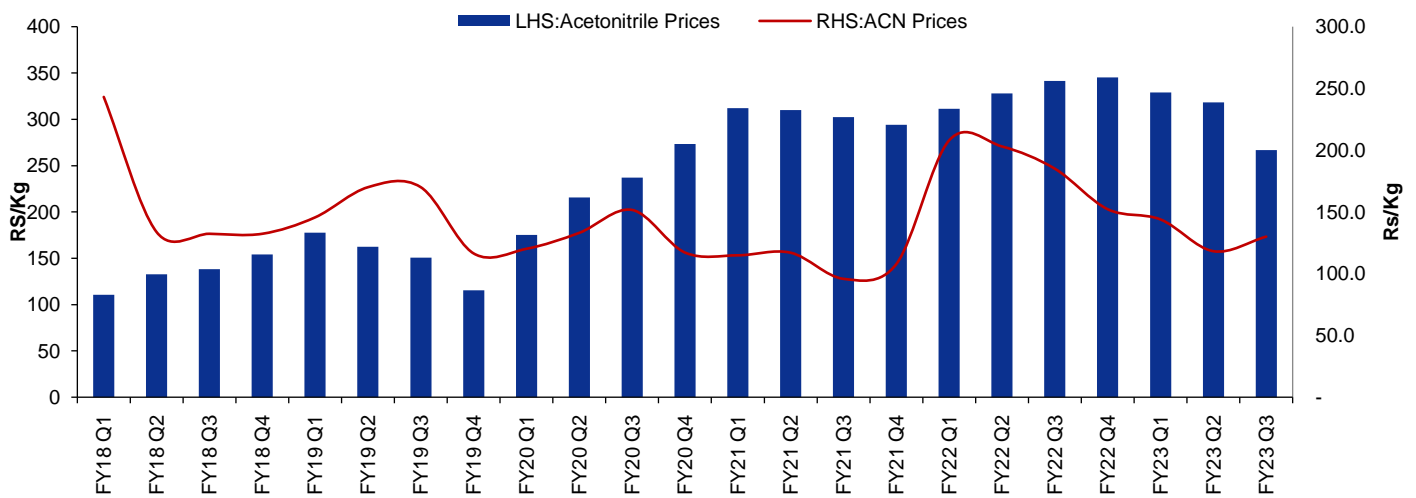
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 11: Acetonitrile spreads are way higher than their historical mean



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 12: Given the dynamics of acetonitrile and acrylonitrile production, it's not surprising that both have a negative correlation; as acrylonitrile prices improve, its production will increase which will lead to a fall in acetonitrile prices and hence, its spreads



SOURCE: INCRED RESEARCH, COMPANY REPORTS

**China's economy reopening is the biggest upside risk for acrylonitrile demand and hence production, which is negative for acetonitrile prices ➤**

China's economy reopening is the biggest risk to acetonitrile prices and also as increased demand/production of acrylonitrile will lead to higher supply of acetonitrile. Acrylonitrile, on the other hand, has cost-push in its favour as the spreads over raw material are near -1SD of the long-term mean.

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