# Xtimate® Lactose-$NH_2$ Care and Use Manual

Xtimate Lactose-$NH_2$ is an aminopropyl-bonded silica column, with uniform and compact aminopropyl functional group molecular layer, ensuring high bonding coverage and excellent stability. It is the best choice to improve the efficiency of lactose analysis.

## Column parameters

| | |
|---|---|
| Bonded phase | Aminopropyl |
| USP listing | L8 |
| Particle size | 5μm |
| Pore size | 120Å |
| Specific surface area | 450$m^2$/g |
| Carbon loading | 7% |
| End-capping | No End-capping |
| pH stability | 2.0-8.0 |
| Max. Temperature | 75℃ |
| Max. Pressure | 40MPa |

## Activation and Transition

**Storage Solvent: n-hexane/isopropanol**

| | Activation | Transition |
|---|---|---|
| Column | 4.6×300mm, 5μm | |
| Flow rate | 0.5ml/min | 1ml/min |
| Mobile phase | 100% isopropanol | 100% acetonitrile |
| Time | 5h | 1h |
| Temperature | 30℃ | Analysis temperature |

## Column Daily Flushing

| | |
|---|---|
| Flow rate | Analysis flow rate |
| Mobile Phase | 100% acetonitrile |
| Time | 60min |
| Storage | Store in pure acetonitrile, kept in cool dry places. |

## Regeneration Flushing

In circumstances of high column pressure, abnormal peak shape, low column efficiency or low resolution etc., regenerate column as following:

| | |
|---|---|
| Flow Rate | Analysis flow rate |
| Mobile Phase | 100% methanol -100% acetonitrile-100% isopropanol-100% acetonitrile |
| Temperature | 30℃ |
| Time | 3h each step |
| Note | Isopropanol has high viscosity, causing high pressure. Please adjust the flow rate as needed. |

## Notes:

The refractive index detector (RID) used for lactose detection is sensitive to the change of temperature, mobile phase ratio and the air bubbles in the mobile phase, which may result in baseline shifts, increasing noise, low resolution and efficiency etc.

1. Mixed mobile phase shall be well shook and mixed, vacuum filtrated and ultrasonic degassed for 10min. Running the mobile phase in one channel. DO NOT use the in-line mixing of system.
2. The instrument shall be equipped with in-line filter.
3. Injection volume shall be exactly same as method required. Specific sample loop is suggested to ensure accurate injection and to minimize the dead volume.
4. Ensure the column at its set temperature before analyzing. Normal column oven heats the column through hot-air and cannot heat the mobile phase to set value meanwhile. To ensure the column temperature, dry towel or cotton is recommended to fill the oven as heat-transfer media, which shall bring better baseline noise and column performance.

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