



# CARBON CHEMISTRY

## Safety

1. SDS Sheets: Available upon request on all chemicals used in this process.

## Preparation

1. Required Materials/Media:
  - Silica Gel
  - Activated Alumina
  - n-Heptane, Hexane or Ethanol

## Procedure

1. Warm crude to 30°C
2. Fully dissolve crude in a solvent, 10:1 (1L crude : 10L etoh)
3. Allow mixture to cool to room temperature
4. Filter over a bed of Alumina on top of Silica Gel in a filter funnel
5. Cool solution to 0°C
6. Repeat step 4
7. Take a representative sample of the solution and add dry ice until the solution stops bubbling
8. Repeat step 4 with sample
9. If more solids are filtered out in step 8, repeat steps 7 and 8 with entire solution.
10. If no solids were present in step 8, or after step 9, proceed to next process

At this point you have *two options*:

If pursuing a single pass end result, or you do not wish to process your distillate between the first and second passes, adsorbent scrubbing the crude while still in the solvent solution is appropriate.

If the situation allows for it, adsorbent scrubbing post first pass distillation, in an alkane solution (n-Heptane, Hexane) is more effective.

## Pre-First Pass Adsorbent Scrubbing Method

1. In a well ventilated area or fume hood, heat your oleoresin to 90°C

2. Measure 5% of total material volume in T-41 and slowly add to oil (1000g oleoresin: 50g T-41)
3. Stir for 20-30 minutes while maintaining a minimum of 90°C temperature
4. Allow solution to cool to approximately 40°C, then add carrier solvent such as Ethanol, Hexane or n-Heptane and filter through alumina/silica over filter funnel
5. Repeat steps 1-4, 2 to 3 times depending on color remediation necessary.

(\*Hardwood Activated Carbon can replace T-41 for the first scrub if multiple scrubs are performed. Degumming would be appropriate before first pass as well)