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***CHEM Group***

SOCMA  
March 2026

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# Company Overview – CHEM Group

1979



Troy, IN  
Founded by  
Dave Carson  
MEG 2, LLC

1995



Evansville, IN  
Plant and HQ  
CGH-EV, Inc (dba CHEM Group)



# WHAT WE DO

## Distilled Products

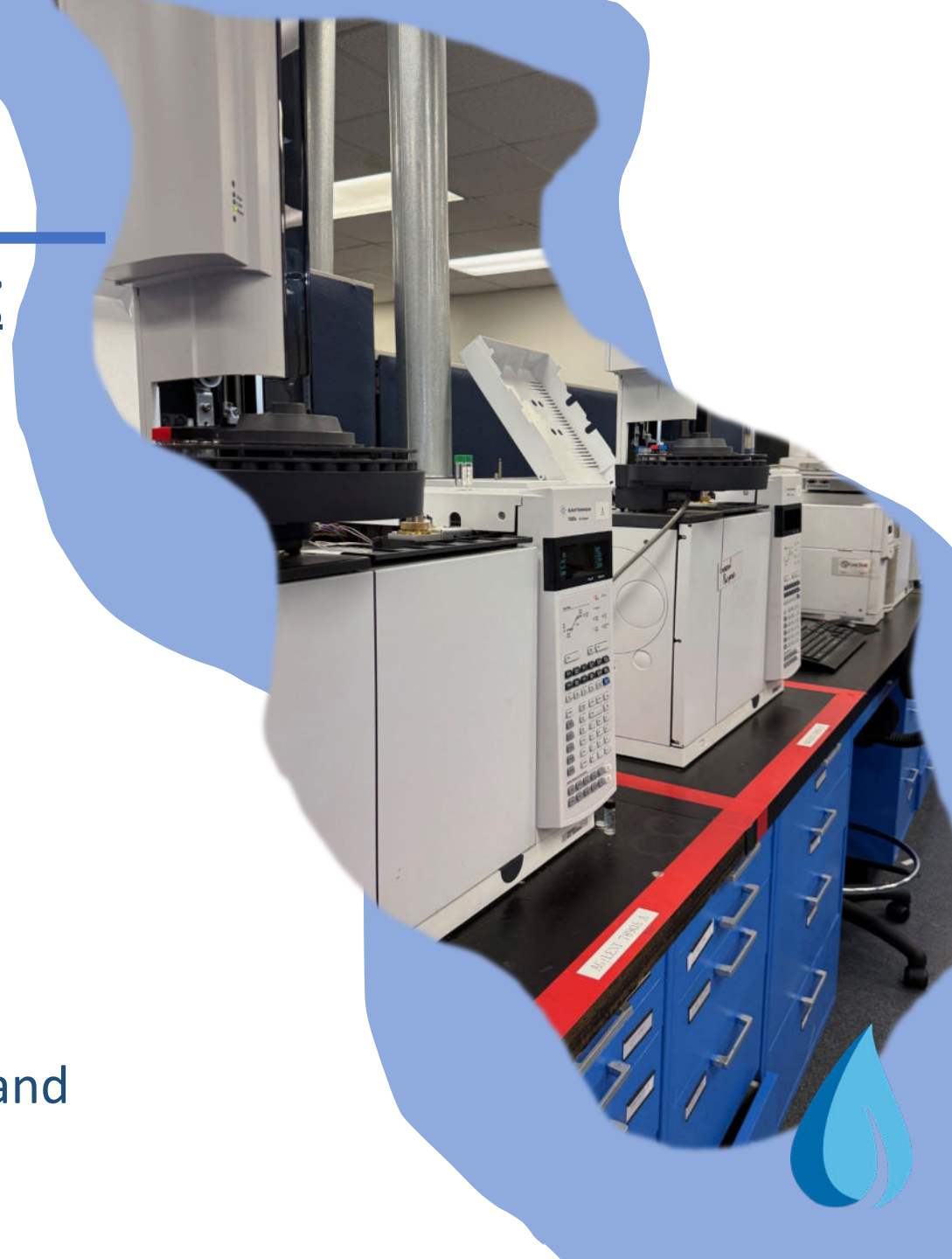
- Heat Transfer Fluids
- Premium Glycols
- Anti-Freeze
- Sodium Nitrite
- Secondary Plasticizers
- Aromatic Solvents
- Pitch

## Toll Manufacturing

- Short Path Distillation
- Blending
- Reaction
- Pastillation
- Process Development

## Process R and D

- Process Validation
- Process Development
- Bench top trials
- Scale up
- Method development and validation



# What is a Heat Transfer Fluid?

In fluid thermodynamics, a heat transfer fluid (HTF) is a gas or liquid that takes part in heat transfer by serving as an intermediary in cooling on one side of a process, transporting and storing thermal energy, and heating on another side of a process.

- Life Blood of a manufacturing process
- If maintained well, long life – 8 to 10 years
- Susceptible to contamination
- Many types:
  - Water/ Glycol
  - Naphthenic/ Paraffinic
  - High Temperature Synthetics
  - Specialty Applications
    - Silicon oils
    - PAO
    - Molten Salts



# What Happens When a HTF Degrades?

## Develops

- Lower boiling molecules (gases)
- Thicker, tarry higher molecular weight molecules “heavies”

## Results

- Loss of heat transfer
  - Increased fluid viscosity
  - Increased fluid acidity
    - Corrosion
  - Low Flashpoint
    - Safety issue

## Options

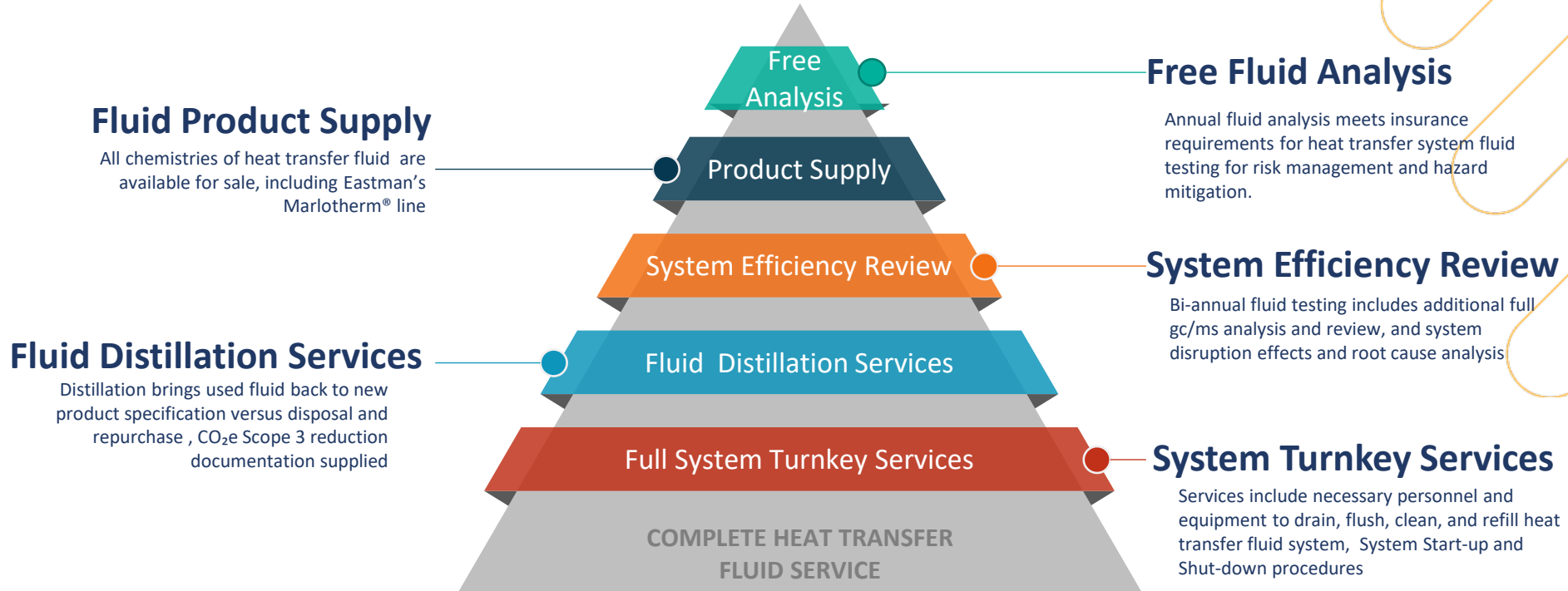
- Full system replacement
- Fluid cycling – periodic fluid replacement
- Distillation



# Heat Transfer Fluids – 5 Levels of Service



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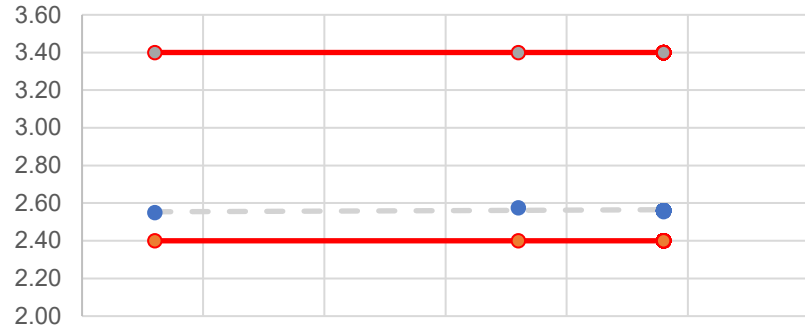


# Heat Transfer Fluids – fluid analysis and system tracking

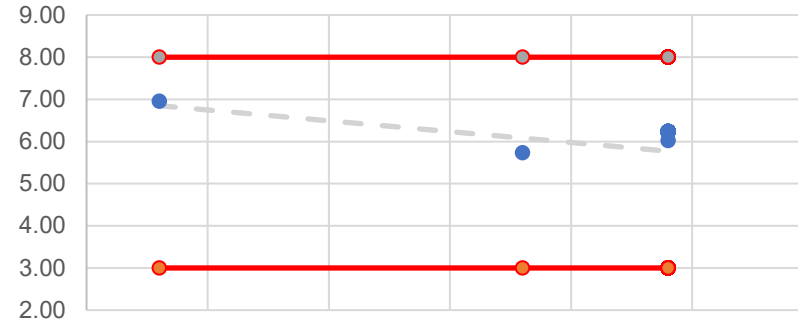


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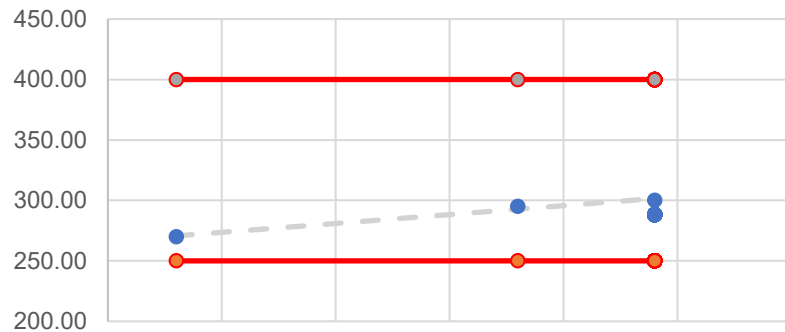
### Visc104F



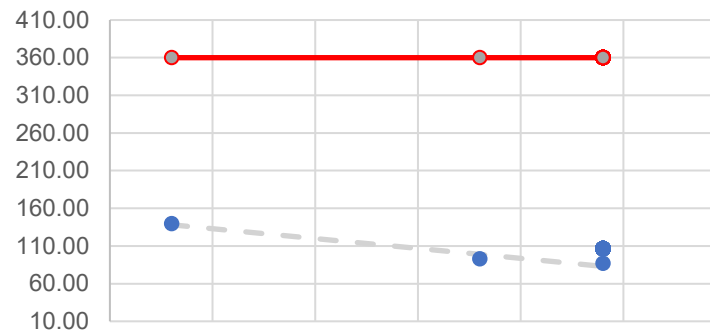
### pH



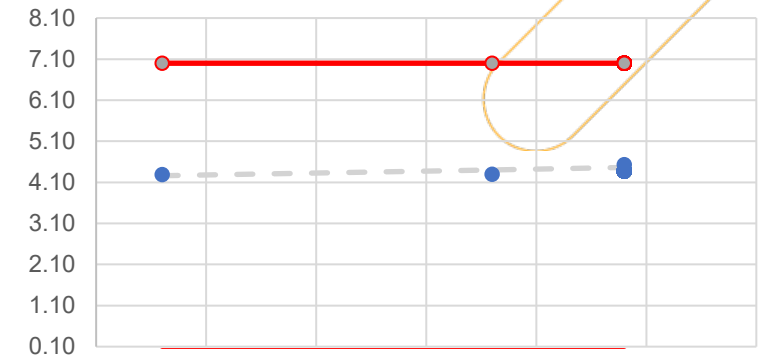
### Flash COC



### Moisture



### High Boilers



Let us be your partner in whole system monitoring and management.

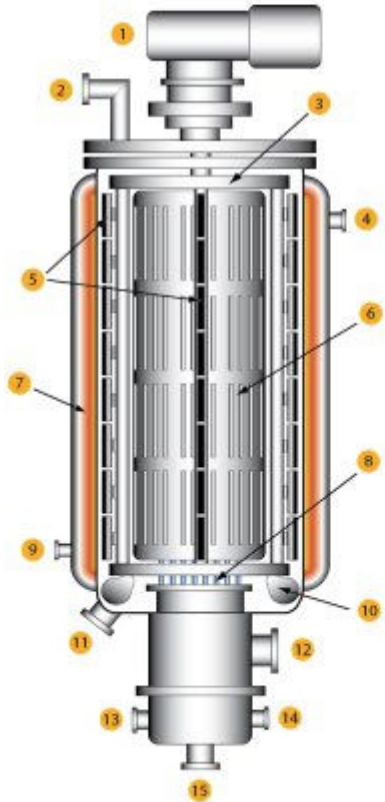


# Streams to reclaim

- Heat Transfer Fluids – all types
- Off-spec product – contaminated due to error, high moisture, processing difficulty, start-up/shut-down material.
- Glycols – EG, DEG, TEG, TTEG and PG – (anti-freeze), solvent or chemical cleaning. These degrade over-time or become contaminated.
- Amines – used in gas treating – these build up salts and reduce the streams effectiveness
- Lubricating Oils – machine lubricants can build up heavy contaminants and moisture
- Catalyst – typically solid, may contain precious metals and are mixed with a solvent.
- Fragrances – typically fermented or isolated crudes that need further processing.
- Bottoms streams – typically contain molecules of interest but not in sufficient purity.



# TECHNOLOGY – WIPEDED FILM EVAPORATOR



- ✓ High Temperature (600F)
- ✓ Low Vacuum (<100 microns)
- ✓ Low Residence Time
- ✓ Tolerant of salts and solids

## Benefits

- Removes light ends and high boilers
- High yield of return (70-95%)
- Directly impacts company sustainability initiatives
- Saves on EPA reporting
- Reduction of chemical footprint and landfill waste participation

- ✓ Also available: Reactors, Distillation Columns, heated mixing kettles, solidification belt, filtration and carbon beds.
- ✓ We can handle: Rail, Trucks, Drums and Totes

# Equipment Summary



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**Evansville, IN:** 8 acres, 500kgal of on-site storage (CS and SS)

**Troy, IN:** 16 acres, 2000kgal of on-site storage – Rail Access, Wastewater Treatment on-site

Equipment	Size	Metallurgy	Max Temp, F	Pressure
(6) Wiped Film Evaporators	51 ft <sup>2</sup> heating, 150-250 ft <sup>2</sup> Cooling	304-316	650F	0.2 torr vac
(4) Reactors	300 to 10,000 gallons	304-316	450F	FV to 50 psig
(2) Kettles-Hot Oil Jacket	3000 gallons each	304	360F	0 psig
(1) Pastillator	4' x 60'	304	Chilled Water	
(1) 10 Stage Packed Column	2' x 50'	304	500F	20 torr vac
(1) 7 Stage Packed Column	2.5' x 40'	304	350F	15 psig

**Additional Services:** Filtering, Drumming, Bagging, Transloading, Trailer Heating, Logistics, Waste Handling, Micro-tolling, R&D





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**R&D and Process Development  
Division**

Your primary partner in Chemistry that Scales

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# Laboratory specialities



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Evansville, IN: (4) lab areas.

Equipment	Size	Metallurgy	Max Temp, C	Pressure
(1) Wiped Film Evaporator	51 ft <sup>2</sup> heating, 150-250 ft <sup>2</sup> Cooling	Glass	350	0.002 torr vac
(1) Glass Reactor	2.5 gallons	Glass	350	to 0.1mmhg
Various small reaction vessels	20-1000ML	Glass, Teflon	various	0- 150 psig
(1) Flow Reactor	3" x 30" adjustable	304	various	0-35 psi
3-24 Stage Column, Packed column	500- 5000 L	Glass, Teflon	500	760-0.01 torr vac
Various other separations	Various	Various	200	0.2-50 psig

**Additional Services**: Method development, General process evaluation, process optimization, kilo scale sample generation, novel synthesis i.e. mechanochemical derivatization, ECT.



# Chemistries to consider

- Any – within the purview of the Chem Group Academic net work.
- Neutralizations and Substitutions
- Click Chemistries
- Polymer adhesive formulations – PLA, Block copolymers, Poly esterification's, blending
- Derivatization and transesterification's
- Sulfonation
- Polyamide substitution and oligomerization



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# Analytical Equipment



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## Evansville, IN:

Equipment	Equipment	Equipment	Equipment
(8) Gc's with FID	TGA	Hplc With RI	Density, S.G. and R.I.
(1) GC/MS	Kinematic viscosity	2 Hplc With uv-vis	Open and Closed Flash
(5) Auto titrators	Dynamic viscosity	Hplc With conductivity detection	Various manual titrations
(4) KF titrators	DMA	TOC	Ash and coking values
Colorimeters	Refractive index	UV-VIZ	~20 hand titrations
DSC	Loss on drying	FTIR	Reactive titrations, ECT

**Additional Services:** Available through outside parties, Full elemental analysis, metals, NMR, ICP-MS, ICP OES, IC, most all ASTM methodologies.



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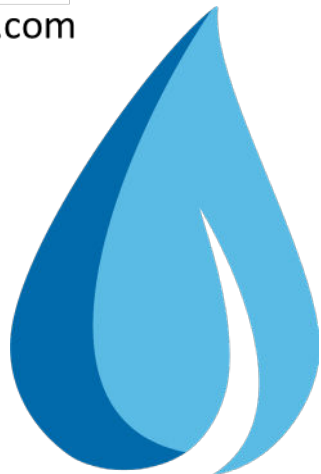
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**Come see us at booth 210**

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