

ESTICHEM^A/_S



Your partner for sustainable
development!



A broad range of specialty products for the chemical formulating industry

Specialized in B2B Business

30 years experience in green chemicals and sustainable raw materials

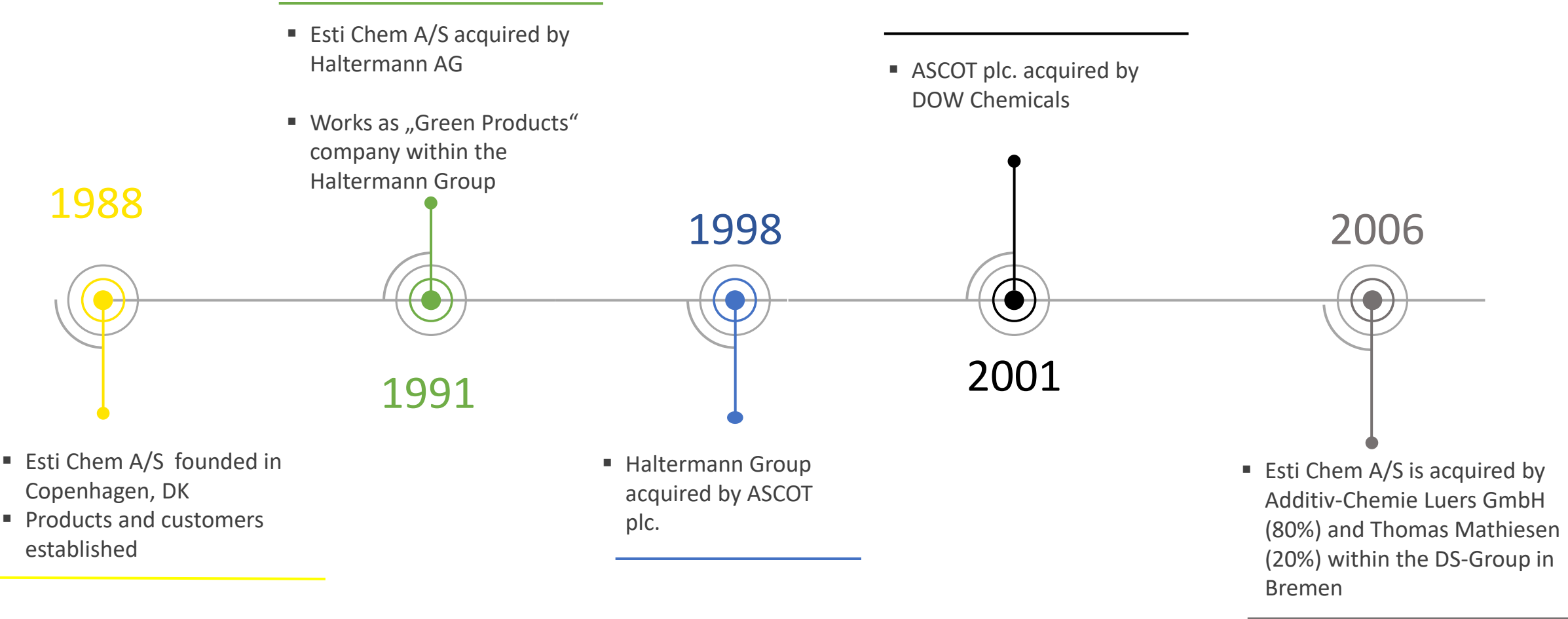
Sales management and customer service for direct customers, distributors and agents

Technical service laboratory & formulation development for customer support

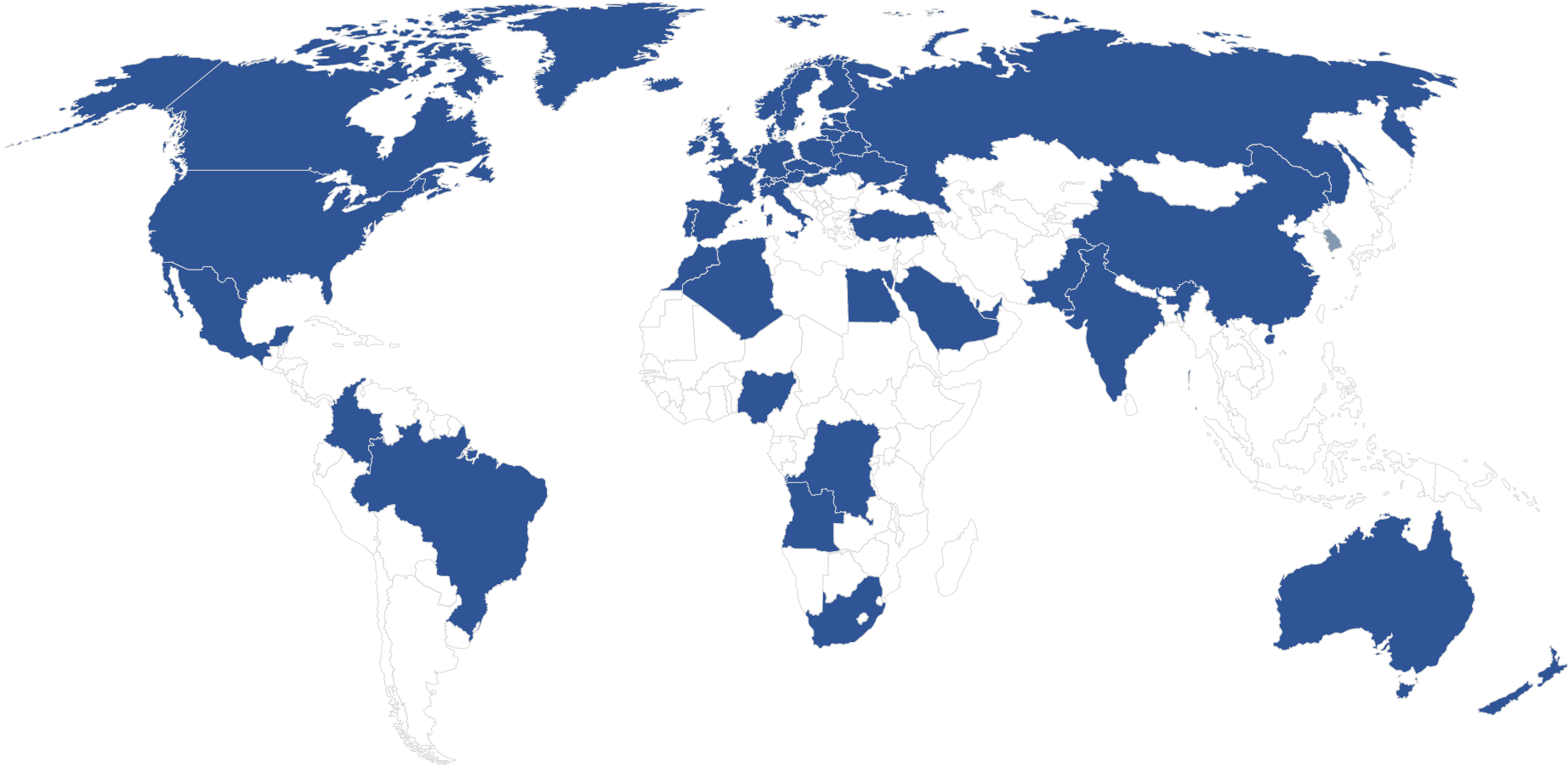
Production and storage facilities with a wide range of production vessels and state of the art laboratory

Bulk, IBC, drum and 20 ltr. can handling

Wide range of products available from stock on short notice



Esti Chem products are now used globally...



“

Esti Chem offers chemical solutions based on renewable raw materials. We help our customers reaching their R&D and EH&S goals by providing products, service & support all the way from the development stage to the final product launch.

”



1

Chemical solutions based on **renewable** raw materials

2

Providing service and support for **R&D and EH&S**

3

Offering widespread distribution and **certified production facilities**

4

Assist you with formulation development in our well-equipped **application laboratory** or in **joint development projects**.

ISO 9001 – ISO 14001 – ISO 45001



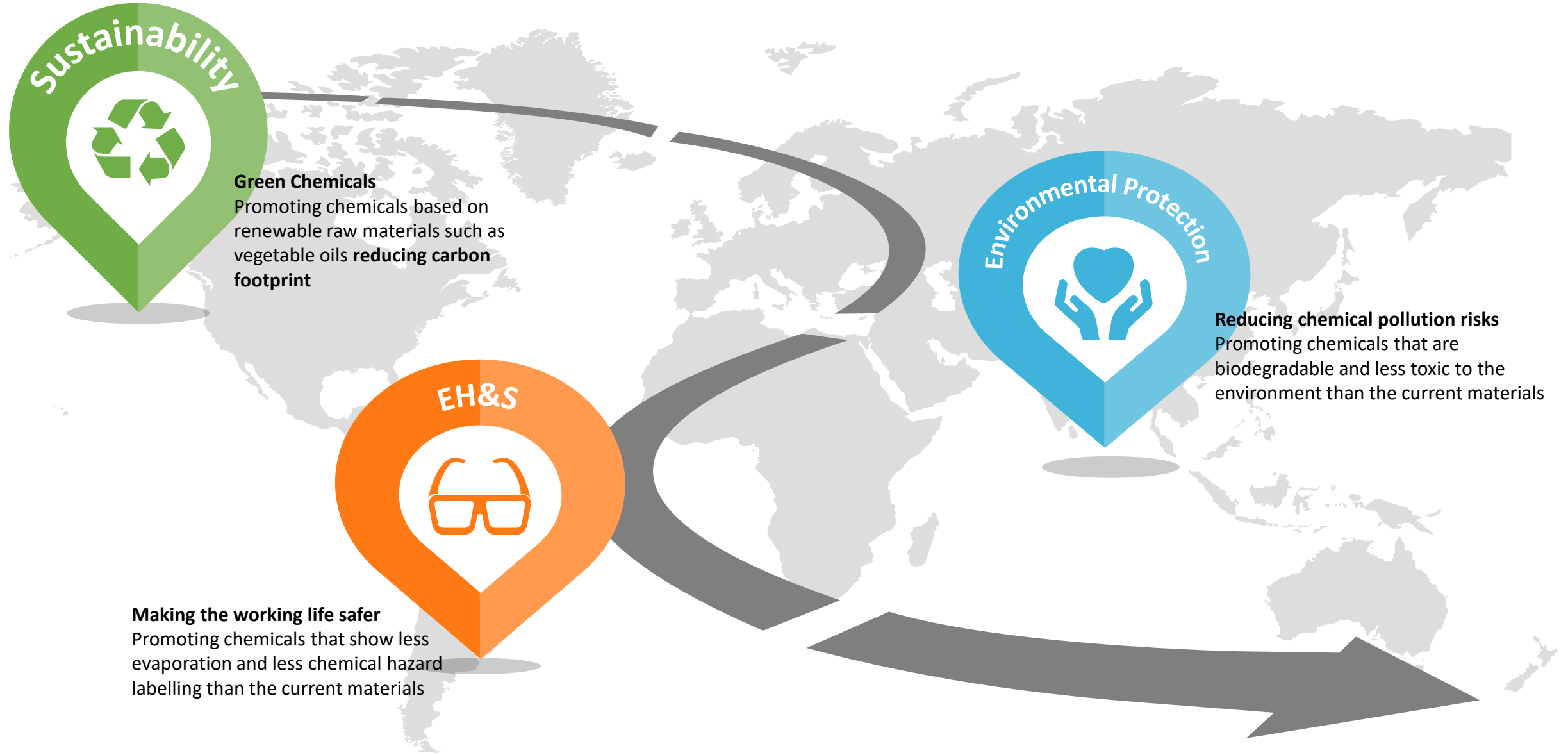
RSPO – Supply chain



ECOVADIS Sustainability rating



Esti Chem is in the frontline of sustainability - your security for stable & secure supply in the future



How can we help our customers? – Safe alternative to d-limonene

d-limonene (orange terpene)

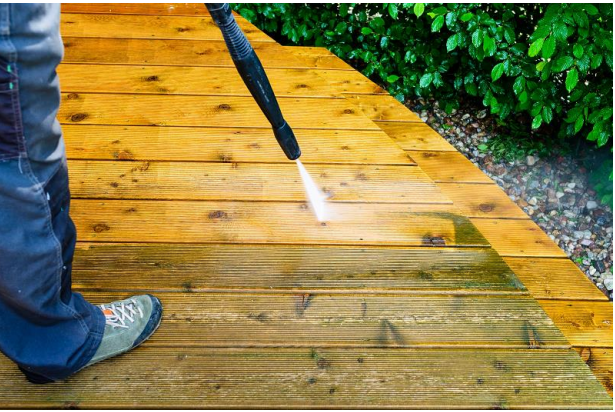
ESTISOL[®]
190

**CLP label-free alternative
to orange terpenes**

How can we help our customers? Safer & Better Cleaners!

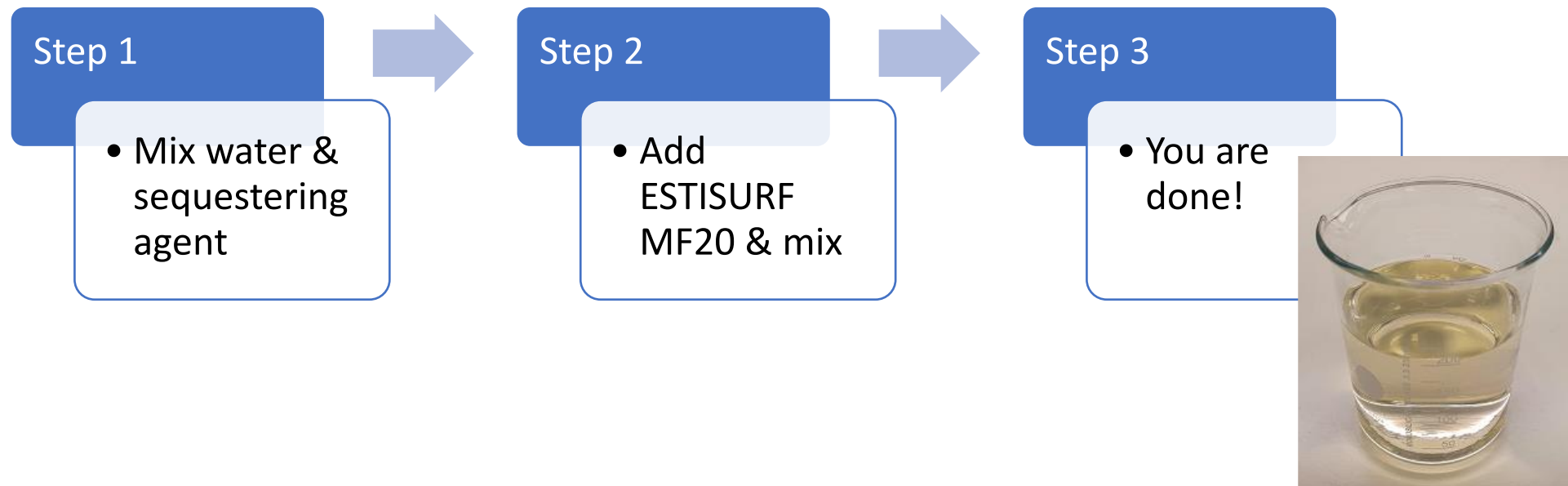


Road construction
Printing industry
Metal degreasing
Automotive cleaning
Leisure markets
And many more.....



ESTISURF MF20 = ESTISOL-based microemulsion package

The fastest way to formulate a powerful cleaner without hazard labelling!



Coatings:

- Coil coatings
- Automotive coatings
- Decorative paint
- Wood protection



Coalescing agents

Co-solvents for PU dispersions

Carrier fluids for metal pigments

Non-VOC solvents

Printing inks:

- Lithographic inks
(cold-set + heat-set inks)
- Screen inks
- Specialty inks



Fatty acid ester solvents

Slow tail-solvents

Oil field chemicals:

- Wellbore chemicals
- Production chemicals
- Maintenance products
- Cleaners



Bio-based solvents

Emulsifiers & dispersants

Cleaning surfactants

Lubricant additives

Silicone oil-free defoamers

Industrial cleaners:

- Automotive cleaners
- Degreasing agents
- Paint strippers
- Hand cleaners
- Ink & resin cleaners
- Solvent substitution
- Construction chemicals



Bio-based solvents

Non-flammable solvents

Cleaning surfactants

Emulsifiers

Dispersants

Corrosion inhibitors

Silicone oil-free defoamers

Functional Fluids:

- Metal working fluids
- Lost lubricants
- Release agents
- Foundry resins
- Corrosion protection



Lubricant base oils

Lubricant additives

Emulsifiers

Bio-based solvents

Esti Chem is constantly working to increase the biocarbon content in our molecules. We are classifying our products according to below scale:

Icon	Bio-based carbon (X% of total C)
	$X \leq 5$
●	$50 \geq X > 5$
●●	$95 > X > 50$
●●●	$X \geq 95$

Our bio-raw materials come from vegetable oils, sugars, waste streams & biooil from pyrolysis process

We can use this to fulfil a range of customer goals:

- Reduce CO2 footprint
- Create a more sustainable business
- Reduce risks during storage, handling and production processes
- Reduce exposure risks for operators in the production



Formulation Ingredients

With three decades of experience in turning vegetable building blocks into valuable raw materials for the formulator

Our Products offer:

- ✓ Reduction of CLP hazard labeling
- ✓ Reduction/Elimination of the VOC-Content
- ✓ Reduction of pH in heavy-duty cleaners
- ✓ Removal of silicone oils in defoamers
- ✓ Improved lubricity of your water miscible or oil-based lubricant formulations



Formulation Technology

We can assist with our formulation knowledge in many areas, some examples are:

- ✓ Replacement of aromatic hydrocarbons in formulated chemical products
- ✓ **Replacing high pH-cleaners** and degreasers with medium pH-cleaner based on micro emulsions of biodegradable ESTISOL esters
- ✓ **Replacing hazardous solvents** in printing ink cleaners, paint strippers and polymer removers
- ✓ Optimized surfactant packages for hard-surface cleaners and industrial degreasers



Customer Developments

Close cooperation between Esti Chem and our customers is a key part of our business model. Formulated chemical products are very diverse in their composition and application profile. If our existing products should not fulfill any requirements for a specific project – we can develop alternatives in partnership with you!

This is your opportunity to get access to technology which is not available on the open market.

ESTISOL[®]

Ester-based solvent replacements

ESTILUBE

Esters oils for oil-based and aqueous lubricants

DEFOAMER

Silicone oil-free defoamers

ESTIMOL

Multifunctional, alkoxyated esters for aqueous lubricants

ESTISURF[®]

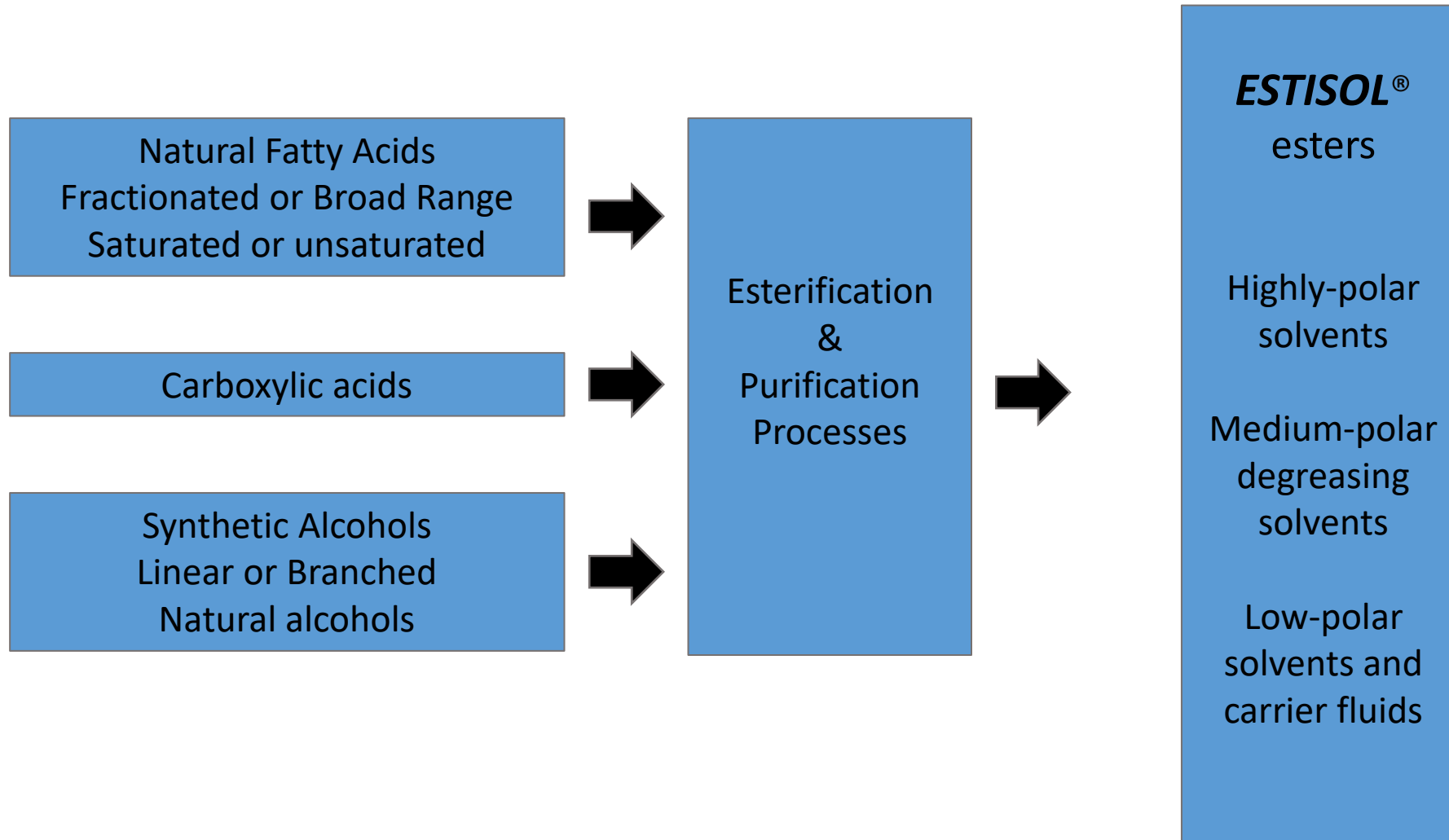
Single-surfactants and optimised performance packages

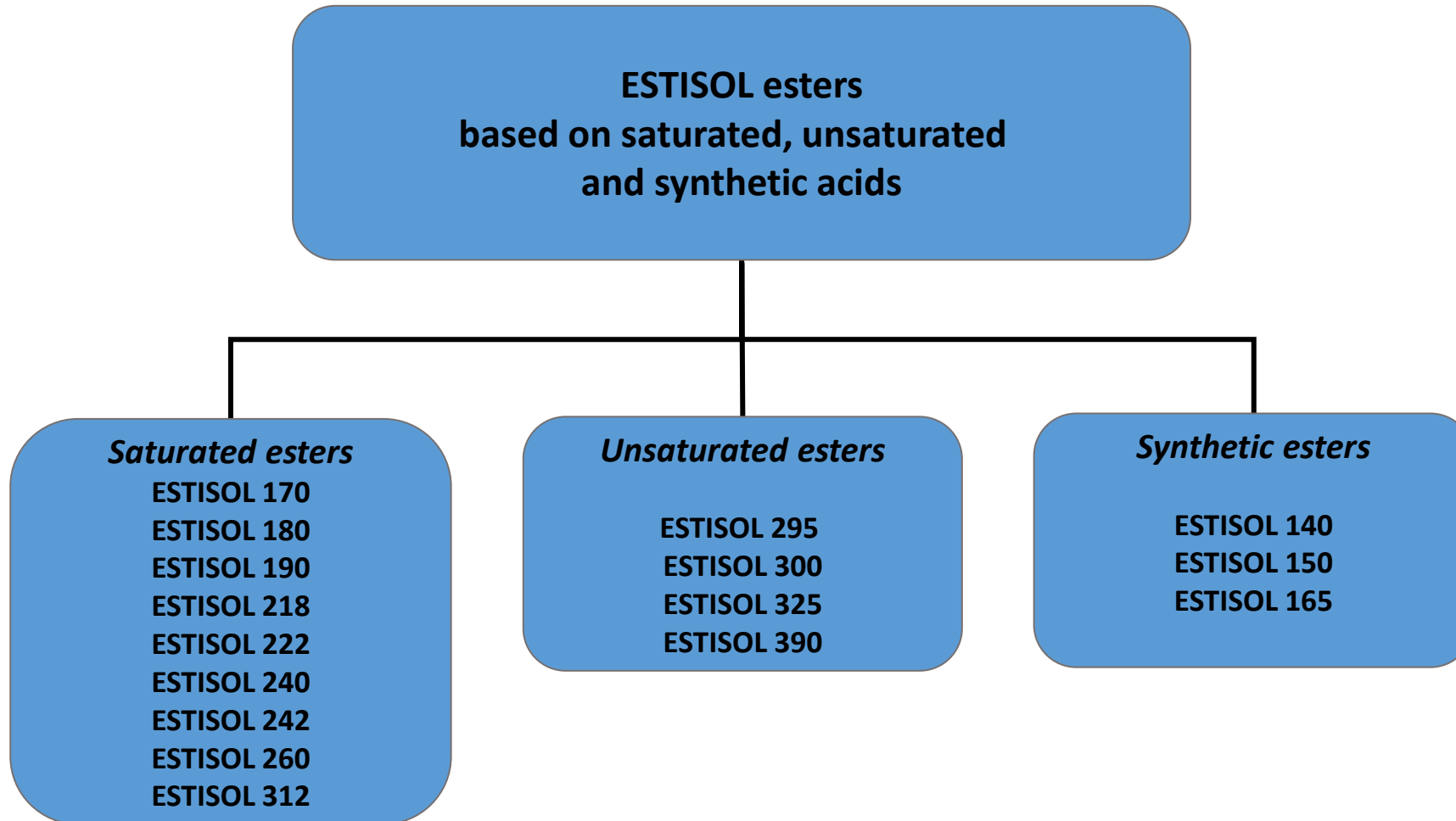
ESTICLEAN[®]

Selected cleaning agents for road construction and 2K polymer removal

Trading Products

For the Nordic region





Polar substances to be removed(Color, ink, adhesive...)



<i>Polymer removers</i>	ESTISOL 110P, 140, 150, 165, 170, 180, 222

Non-polar substances to be removed (Oil, bitumen, paraffin ...)

Polar substances to be removed(Color, ink, adhesive...)



<i>Polymer removers</i>	ESTISOL 110P, 130, 135, 140, 150, 165, 170, 180, 222
<i>Hard surface cleaners, metal degreasers</i>	ESTISOL 180, 190, 218, 222, 240, 242, 260, 295

Non-polar substances to be removed (Oil, bitumen, paraffin ...)

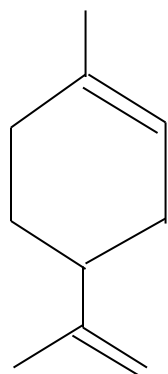
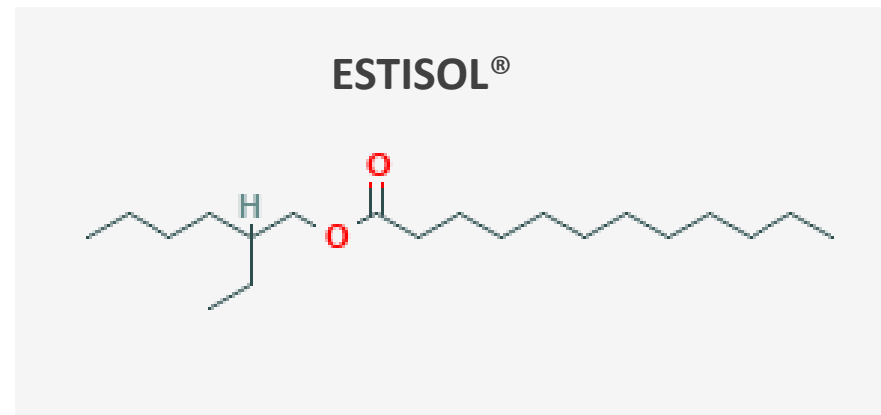
Polar substances to be removed(Color, ink, adhesive...)



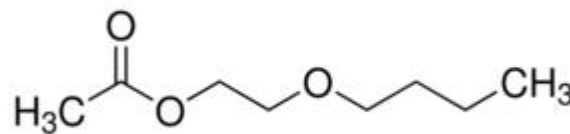
<i>Polymer removers</i>	ESTISOL 110P, 140, 150, 165, 170, 180, 222
<i>Hard surface cleaners, metal degreasers</i>	ESTISOL 180, 190, 218, 222, 240, 242, 260, 295
<i>Asphalt & oil removers</i>	ESTISOL 242, 260, 295, 300, 312, 325, 390

Non-polar substances to be removed (Oil, bitumen, paraffin ...)

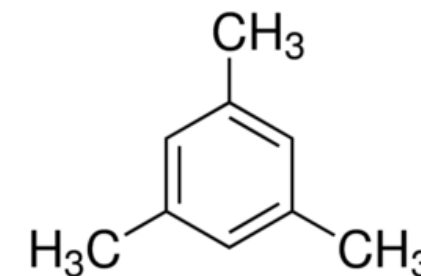
ESTISOL[®] - Solvents that can often be replaced by ESTISOL



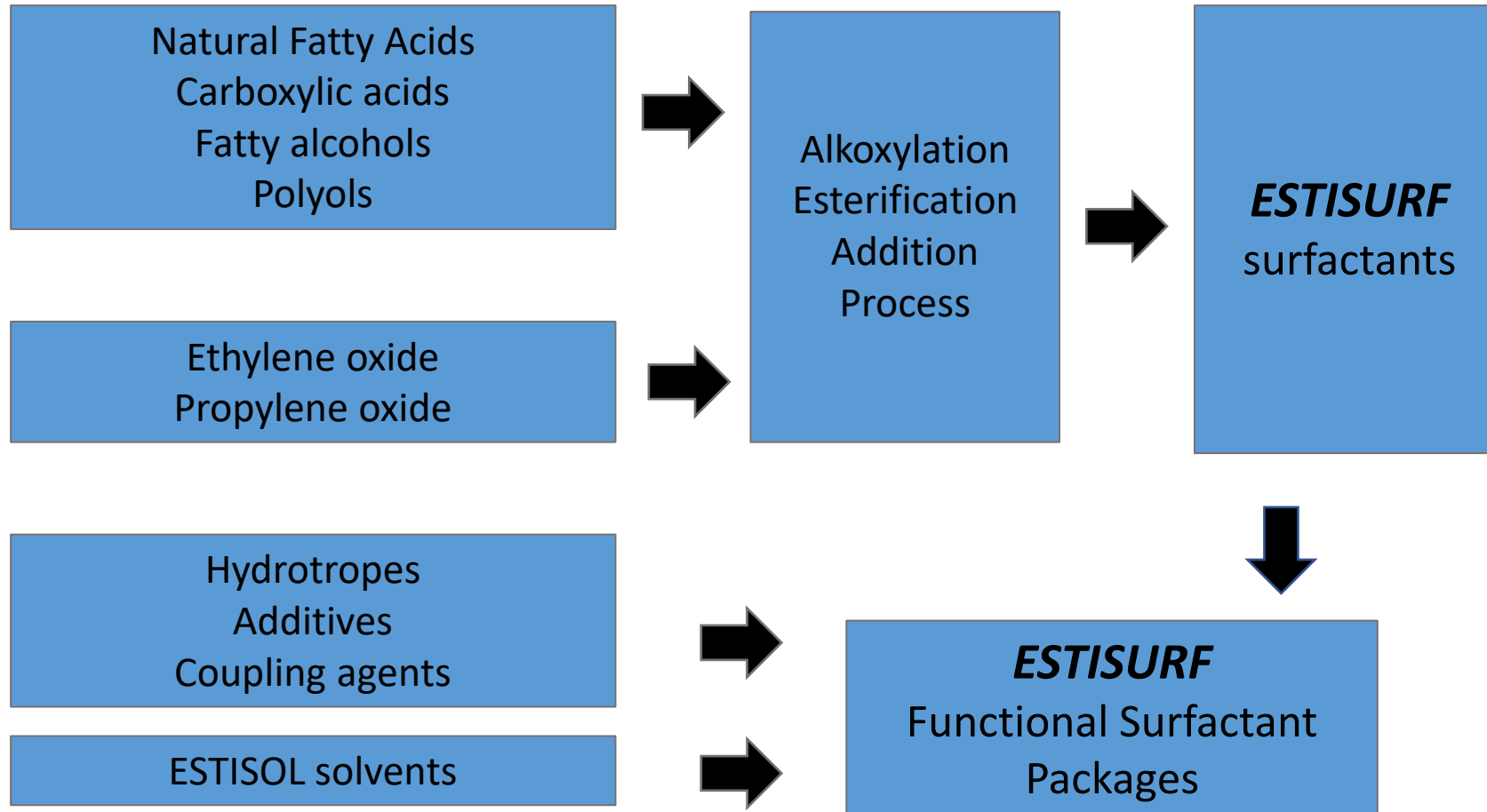
Terpenes

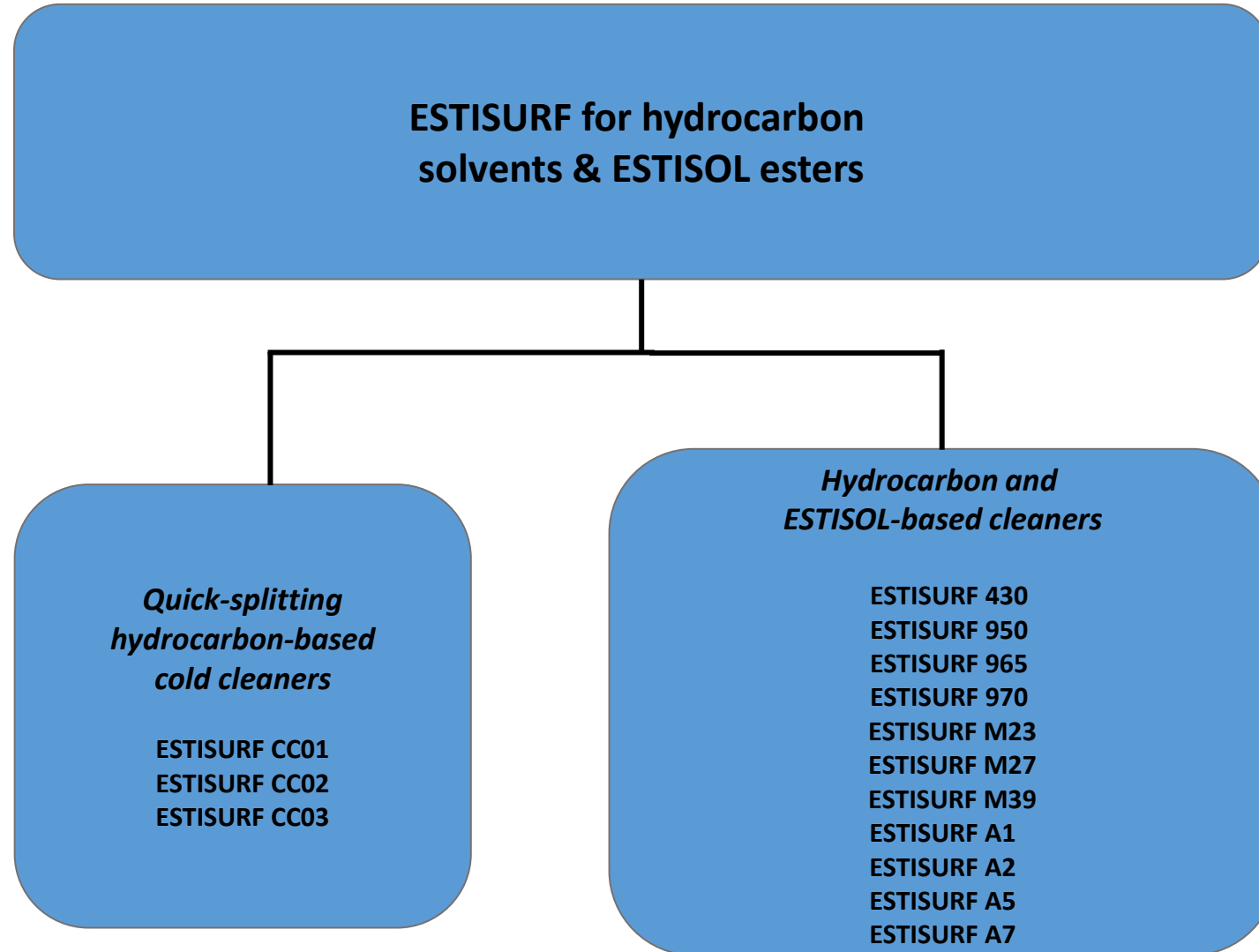


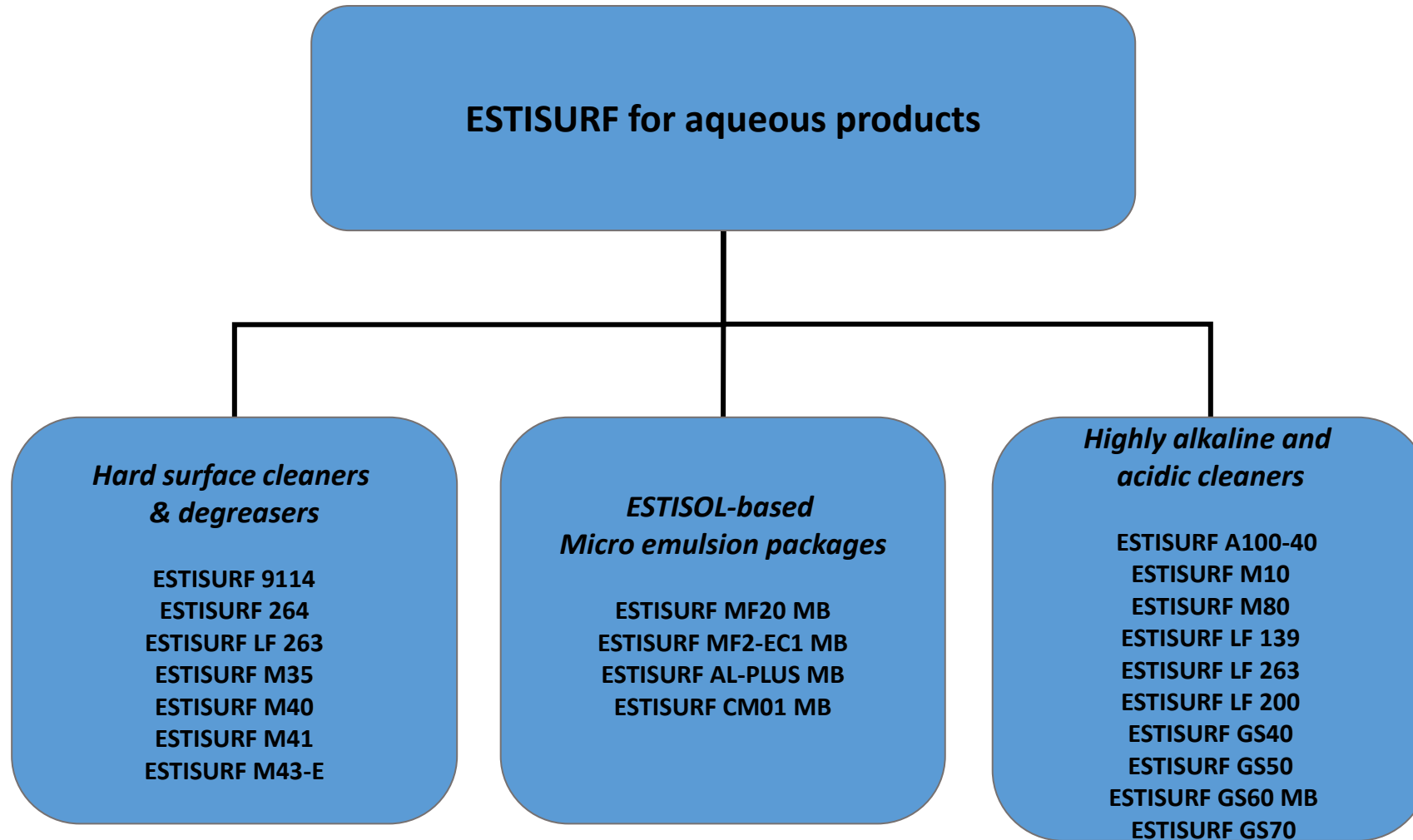
Glycol ether acetates



Aromatic hydrocarbons



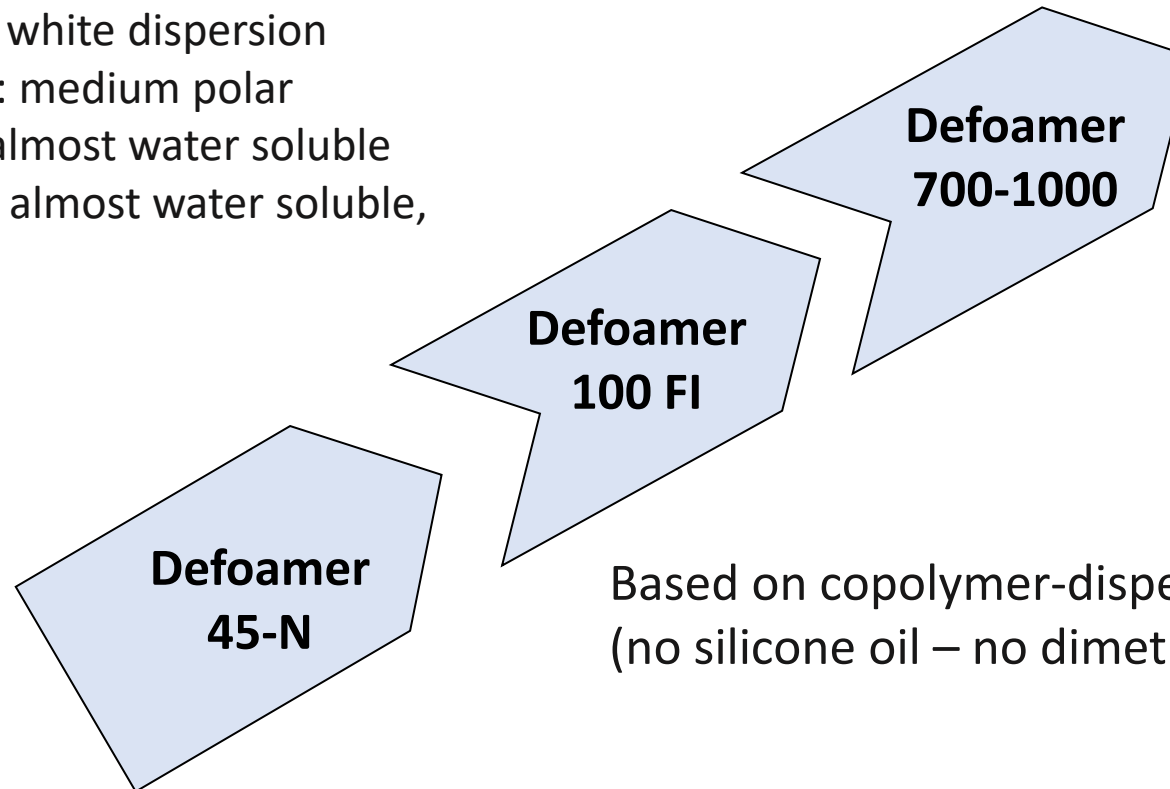




The **DEFOAMER** has to be chosen based on the polarity of the medium:

- DEFOAMER 45-N: white dispersion
- DEFOAMER 100FI: medium polar
- DEFOAMER 700: almost water soluble
- DEFOAMER 1000: almost water soluble, high activity

Polar media
(water, alcohols, glycols)



Based on copolymer-dispersion
(no silicone oil – no dimethyl siloxane)

non-polar media (mineral oil emulsions, wax emulsions, polishes)

DEFOAMER 45-N	Metal working fluids, polymer dispersions, cleaners
DEFOAMER 100FI	Metal working fluids, cleaners, degreasers
DEFOAMER 700 DEFOAMER 1000	Cleaners, degreasers, fountain solutions and wind screen cleaners

RESIN CLEANER products are replacing hazardous solvents in the manufacturing industry, where unsaturated polyester, epoxy or polyurethane resins are applied.

RESIN CLEANER A

RESIN CLEANER PU14

RESIN CLEANER PU21

RESIN CLEANER PU30

RESIN CLEANER EP2

RESIN CLEANER EP22

RESIN CLEANER EP40



RESIN CLEANER products clean cutting tools, brushes, spray guns, rollers, pumps, hoses, blending vessels, transport containers and tank trucks.

ESTIMOL esters are alkoxyated polyol esters applied as lubricant additives in metal working fluids, where extraordinary good lubricity is needed. Cleaning of lubricant residue can be done with water or light alkaline degreaser.

For circulating cutting fluids:

ESTIMOL CE 960NN

ESTIMOL CX-N

For metal forming fluids:

ESTIMOL TE 2000



ESTIMOL find applications in heavy-duty cutting fluids, deep-drawing lubricants, lubricants for producing Zn and aluminium profiles etc.

ESTILUBE esters are mono- and polyol esters applied as lubricant additives in metal working fluids, chain lubricants, stamping fluids, deep-drawing lubricants and minimal lubrication fluids where improved lubricity is required.

For low viscosity fluids with no carbon formation at high temperature:

ESTILUBE L210, L210, L240, L300, L400

For emulsifiable cutting fluids:

ESTILUBE P1150

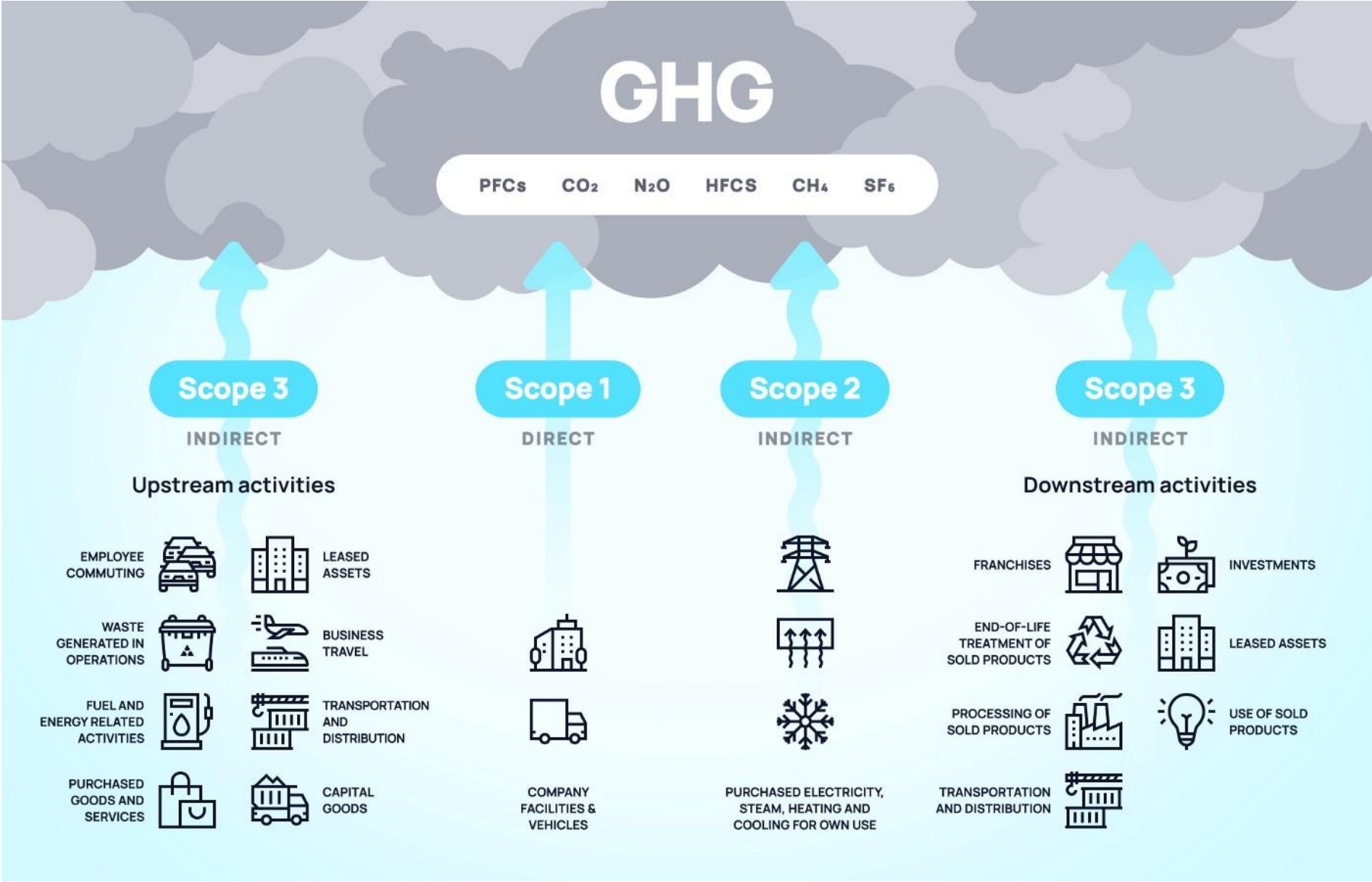
For metal forming fluids and cutting oils:

ESTILUBE L290, L 320, L360, PTO, P1150, P1600N

For high-temperature chain lubes:

ESTILUBE P688





What have we done at Esti Chem and what can we offer to our customers?

<p>Esti Chem A/S facility in Denmark has been documented, plans for 3rd party verification in 2022</p>	<p>Esti Chem A/S facility in Denmark has been documented to 95% level, remaining 5% to come in 2022, plans for 3rd party verification in 2022</p>	<p>Documentation of CO₂ emissions is progressing, first LCA's on two ESTISOL vegetable solvents is expected to be in place Q4 2022</p>
<p style="text-align: center;"><i>How can we help our customers reducing CO₂ footprint?</i></p> <p style="text-align: center;"><i>Vegetable-based ESTISOLs as alternative to hydrocarbon solvents</i></p> <p style="text-align: center;"><i>Replace VOC solvents with non-VOCs ESTISOL solvents thereby reducing raw material consumption</i></p> <p style="text-align: center;"><i>Apply ESTISURF non-VOC microemulsions instead of VOC cleaning solvents</i></p>		

ESTICHEM^A/_S



If you wish further information, simply hold your mobile device on the QR-Code

