

# Fine Chemistry & Custom Manufacturing

**saltigo**  
customized competence

A company of the  
**LANXESS**  
Group

## THIS IS WHAT SETS US APART AS A CUSTOM MANUFACTURING PROVIDER



### Your partner for custom manufacturing with tailored solutions & maximum efficiency

Saltigo stands for high-quality custom manufacturing and cutting-edge process development in chemicals. As a 100% subsidiary of the specialty chemicals company LANXESS, we have been a trusted partner for a wide variety of industries, including the agrochemical, pharmaceutical, specialty chemical, polymer and electronic industries since 2006.

You benefit from our:

- **Broad & versatile technology portfolio**  
Combining proven expertise with proprietary, innovative processes
- **World-class process development center**  
Driving efficiency and innovation for your projects
- **Integrated production infrastructure**  
Seamlessly connected within the CHEMPARK network in Leverkusen, Germany
- **Strong procurement network**  
Ensuring resilient and secure supply chains
- **Efficient project management**  
Transparent processes with real-time updates for maximum planning reliability
- **IP protection**  
Confidentiality and IP protection are at the heart of everything we do – your ideas stay yours

With a global presence, cutting-edge technology, and lots of active projects, we empower our customers to gain a competitive edge and achieve sustainable market success.





**TAILORED  
CHEMISTRY TO  
PERFECTION  
THROUGHOUT THE  
ENTIRE PRODUCT  
LIFE CYCLE**

Your vision, our expertise!  
Saltigo is there for you

**Comprehensive solutions for every step of your project**

At Saltigo, we offer end-to-end services that support you at every stage, from process scouting to large-scale production. Our solutions are designed to optimize efficiency, ensure quality and guarantee safety.

- **Process Scouting**  
Identifying the best solutions and partners for your needs
- **Process Research**  
Optimizing synthesis routes, evaluating state of the art methods e.g. flow chemistry and providing lab samples
- **Process Development**  
From lab to large-scale production, leveraging DoE, Lean Six Sigma and advanced analytics
- **Pilot Plant Operation**  
Scalable, flexible production with state-of-the-art technologies for complex processes
- **Commercial Production**  
Reliable, large-scale manufacturing with consistent quality, regulatory compliance, and tailored supply chain solutions

This broad array of technologies and capabilities allows us to meet the most challenging chemical processes and production needs with flexibility and precision.





## CHALLENGING CHEMICALS & TECHNOLOGIES IN PROCESS DEVELOPMENT AND MANUFACTURING

Our versatile technology base enables complex syntheses across various scales, supported by broad permits, a wide range of technologies, and a diverse mix of equipment and materials – perfectly tailored to meet the needs of your industry. Here are just a few examples:

### Challenging reagents

- Phosgene
- Hydrazine, methyl hydrazine, ethylene oxide
- Complex hydrides
- Fluorinations with HF and Halex reactions
- Carbon monoxide
- Methyl Chloride
- Dimethylsulfate

### Basic technologies

- High-pressure hydrogenation up to 200bar
- Friedel-Crafts reaction
- Oxidation & reduction
- Bromination
- Chlorination with e.g.  $\text{Cl}_2$ ,  $\text{PCl}_3$ ,  $\text{PCl}_5$ ,  $\text{POCl}_3$ ,  $\text{SOCl}_2$
- Nitration
- Sulfonation
- Advanced distillation with up to 120 theoretical plates
- Emulsion polymerization

### Cutting-edge

- Cross-coupling technologies
- Buchwald CN-coupling
- Asymmetric catalytic hydrogenation
- Transfer hydrogenation
- Enzymatic reactions
- Chiral resolution
- Metathesis
- Cryochemistry (-100 °C)
- Flow chemistry
- Grignard reactions





**SALTIGO  
CONVINCES WITH  
A POWERFUL  
NETWORK &  
OUR OWN  
INNOVATIVE  
PRODUCTS**

## Your strategic outsourcing partner

### Benefits from outsourcing your products

- Access to advanced technologies & expertise
- Flexible capacity & risk management
- Accelerated time-to-market and cost savings

### Chemical park integration & excellent network

- Excellent infrastructure including raw material supply via pipeline
- Broad recycling capacities, waste water treatment, incineration and landfill on site
- 10 connected plants in Germany
- Process development & analytics located next door

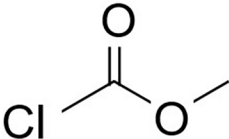
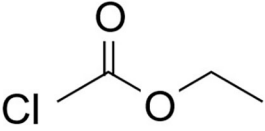
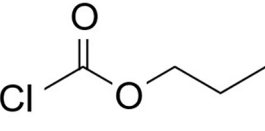
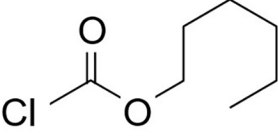
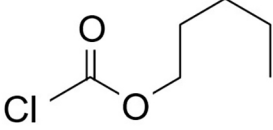
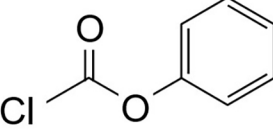
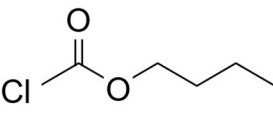
### Quality, compliance & safety without compromise

- ISO quality system (9001, 14001, 50001, 17025), as well as IPEC GMP
- Reliable high quality, excellent track record for audits & inspections
- High safety standards

### Saltigo has its own highly innovative product range

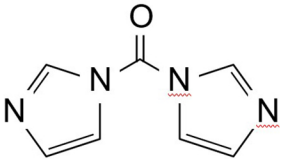
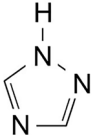
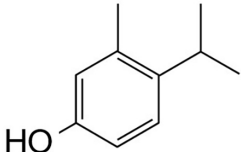
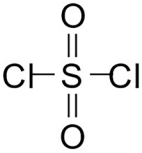
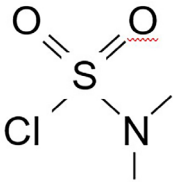
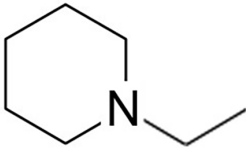
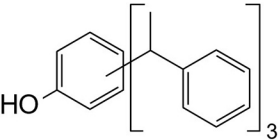
- Beyond custom manufacturing, we offer innovative solutions to industrial customers.
- Fine Chemical Intermediates
- Picaridin (Saltidin®/Icaridin) active ingredient for DEET-free insect repellent formulations



| Structure   | Identification  | Characteristics   | Main Applications  |
|---|---|---|--|
| <i>Phosgene derivatives</i>   |   |   |  |
|    | Methyl chloroformate<br>MCF, Methyl chlorocarbonate,<br>Chloroformic acid methyl ester<br>CAS Reg. No. 79-22-1<br>TSCA: Active        | Assay: min. 99.0% by area<br>Appearance: colorless to pale<br>yellow liquid<br>Packaging: ISO tank                  | Organic reagent for introduction<br>of the methoxycarbonyl group,<br>synthesis of carbonates, carba-<br>mates, anhydrides etc.       |
|    | Ethyl chloroformate ECF, Ethyl<br>chlorocarbonate, Chloroformic<br>acid ethyl ester<br>CAS Reg. No. 541-41-3<br>TSCA: Active          | Assay: min. 98.5% by area<br>Appearance: colorless to pale<br>yellow liquid<br>Packaging: 160 kg drum, ISO<br>tank  | Organic reagent for introduction<br>of the ethoxycarbonyl group,<br>synthesis of carbonates, carba-<br>mates, anhydrides etc.        |
|    | n-Propyl chloroformate*<br>nPCF, n-Propyl chlorocarbonate,<br>Chloroformic acid propyl ester<br>CAS Reg. No. 109-61-5<br>TSCA: Active | Assay: min. 98.0% by area<br>Appearance: colorless to pale<br>yellow liquid<br>Packaging: ISO tank                  | Organic reagent for introduction<br>of the<br>n-propoxycarbonyl group,<br>synthesis of carbonates, carba-<br>mates, anhydrides etc.  |
|  | n-Hexylchloroformate*<br>HCF, n-Hexyl-chlorocarbonate,<br>Chloroformic acid, hexyl ester<br>CAS Reg. No. 6092-54-2<br>TSCA: Active    | Assay: min. 96.0%<br>Appearance: clear colorless to<br>yellow liquid<br>Packaging: 190 kg drum                      | Organic reagent for introduction<br>of the<br>n-hexyloxycarbonyl group,<br>synthesis of carbonates, carba-<br>mates, anhydrides etc. |
|  | n-Pentylchloroformate*<br>n-Pentylchlorocarbonate, Chlo-<br>roformic acid pentyl ester<br>CAS Reg. No. 638-41-5<br>TSCA: Active       | Assay: min. 98.5% by area<br>Appearance: colorless liquid<br>Packaging: ISO tank                                    | Organic reagent for introduction<br>of the<br>n-pentoxycarbonyl group,<br>synthesis of carbonates, carba-<br>mates, anhydrides etc.  |
|  | Phenyl chloroformate* Phenyl<br>chlorocarbonate,<br>Chloroformic acid phenyl ester<br>CAS Reg. No. 1885-14-9<br>TSCA: Active          | Assay: min. 99.0% by area<br>Appearance: colorless to pale<br>colored liquid<br>Packaging: 220 kg drum, ISO<br>tank | Mining industry, flotation agents<br>and depressants, automotive<br>industry   |
|  | n-Butylchloroformate* Butyl<br>chlorocarbonate,<br>Chloroformic acid butyl ester<br>CAS Reg. No. 592-34-7<br>TSCA: Active             | Assay: min. 99.0% by area<br>Appearance: clear, colorless to<br>slightly yellowish liquid<br>Packaging: ISO tank    | Mining industry, flotation agents<br>and depressants, automotive<br>industry   |

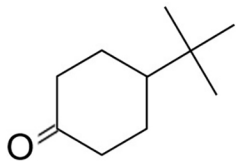
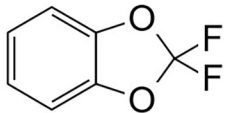
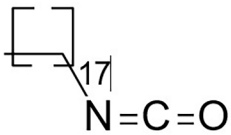
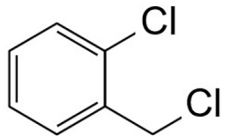
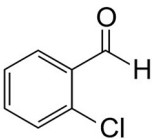
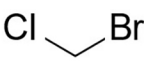
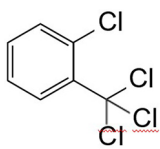
\*on request



| Structure   | Identification   | Characteristics  | Main Applications   |
|---|--|--|---|
| <i>Phosgene derivatives</i>   |  |  |   |
|    | Carbonyldiimidazole*<br>1,1'-Carbonyl-bis(imidazole),<br>CDI, CBI<br>CAS Reg. No. 530-62-1<br>TSCA: Active                                     | Assay: min. 98.0% by area<br>Appearance: white to pale colored solid<br><br>Packaging: 10 kg drum, 20 kg drum, 50 kg drum                  | Versatile organic reagent, safer-to-handle phosgene equivalent, activator for carboxylic acids etc. |
| Triazole  |  |  |   |
|    | 1,2,4-Triazole<br>CAS Reg. No. 288-88-0<br>TSCA: Active  | Assay: min. 99.5% by area<br>Appearance: white to pale yellow flakes<br>Packaging: Big Bag and drums                                       | Intermediate for agrochemicals, pharmaceuticals and other fine chemicals                            |
| <i>Other Reagents and Building Blocks</i>   |  |  |   |
|   | p-Thymol*<br>4-Isopropyl-3-methylphenol CAS Reg. No. 3228-02-2   | Assay: min. 99.8 %<br>Appearance: white solid material<br>Packaging: 60 kg drum  | Antibactericide & Preservative for Oral & Personal Care   |
|  | Sulfuryl Chloride*, Sulphuryl Chloride, Sulfurylchloride, Sulfonylchloride<br>CAS Reg. No. 7791-25-5<br>TSCA: Active                           | Assay: min. 99.0% by area<br>Appearance: Clear, yellowish liquid<br>Packaging: ISO tank, 300 kg drum, 181.5 kg drum                        | Intermediate in the production of dyes, pesticides, and pharmaceutical                              |
|  | Dimethylaminosulfonyl chloride*<br>N,N-Dimethylaminosulfonyl chloride<br>CAS Reg. No. 13360-57-1<br>TSCA: Active                               | Assay: min. 98.0% by area<br>Appearance: Yellowish to green liquid<br>Packaging: 250 kg drum   | Reagent for the introduction of the N,N- dimethylsulfamoyl group                                    |
|  | N-Ethylpiperidine* 1-Ethylpiperidine<br>CAS Reg. No. 766-09-6<br>TSCA: Active  | Assay: min. 99.6% by area<br>Appearance: colorless to light yellow liquid<br>Packaging: 160 kg rolling channel drum, rail tanker, ISO tank | Building block, sterically hindered base, tertiary amine  |
|  | Tristyrenated Phenol* Reaction mass of 2,6-bis (1-phenylethyl)phenol and 2,4,6- tris (1-phenylethyl)phenol<br>EC no: 701-171-0<br>TSCA: Active | Assay: 60 - 75%<br>Appearance: Colorless to pale yellow, highly viscous liquid<br>Packaging: 200 kg rolling channel drum, ISO tank         | Intermediate for production of surfactants  |

\*on request

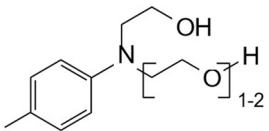
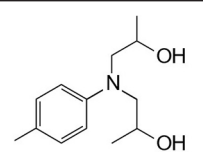
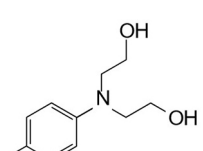
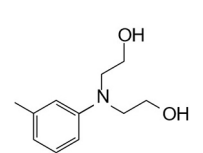
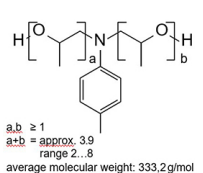
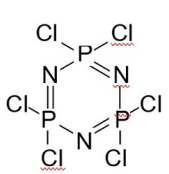
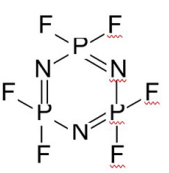


| Structure   | Identification  | Characteristics  | Main Applications   |
|---|---|--|---|
| <i>Other Reagents and Building Blocks</i>   |   |  |   |
|    | 4-tert-Butylcyclohexanone*<br>CAS Reg. No. 98-53-3<br>TSCA: Active  | Assay: min. 99.0 %<br>Appearance: At room temperature colorless to light yellowish crystals. At temperatures > 45 °C colorless to yellowish clear liquid.<br>Packaging: ISO tank and drums | Intermediate for agrochemicals, pharmaceuticals, fine chemicals, flavors, fragrances, polymers, coatings, and lithium battery additives |
|    | 2,2-Difluoro-1,3-benzodioxole*<br>CAS Reg. No. 1583-59-1<br>TSCA: Active  | Assay: min. 98.0%<br>Appearance: Colorless to yellow liquid.<br>Packaging: ISO tank  | Intermediate for agrochemicals, pharmaceuticals and other fine chemicals  |
|    | STI 97, Stearyl Isocyanate, Octadecyl Isocyanate<br>CAS 112-96-9<br>TSCA: Active  | Assay: min. 97.0%<br>Appearance: Semitransparent liquid or colorless solidified melt<br>Packaging: 150 kg drums  | Release agent for adhesives, polyamide coatings, hot melt inks, textile applications  |
|  | o-Chlorobenzylchloride* oCBC,<br>2-Chlorobenzylchloride<br>CAS Reg. No. 611-19-8<br>TSCA: Active                            | Assay: min. 99.0% by area<br>Appearance: Clear to pale yellow liquid<br>Packaging: ISO tank  | Intermediate for agrochemicals, pharmaceuticals and other fine chemicals  |
|  | 2-Chlorobenzaldehyde*,<br>o-CBA, o-Chlorobenzaldehyde,<br>1-Chloro- 2-formylbenzene<br>CAS Reg. No. 89-98-5<br>TSCA: Active | Assay: min. 99.0%<br>Appearance: Clear, colorless to pale yellow liquid<br>Packaging: ISO tank   | Intermediate in the production of dyes, pesticides, and pharmaceutical  |
|  | Bromochloromethane* CAS Reg. No. 74-97-5<br>TSCA: Active  | Assay: min. 95% Appearance: clear, colorless to yellowish liquid   | Reagent for cyclopropanation reactions  |
|  | 2-Chlorobenzotrichloride* CAS Reg. No. 2136-89-2<br>TSCA: Active  | Assay: min. 99.2% by area<br>Appearance: Colorless to weakly yellow liquid and/or solidified melt  | Intermediate for production of pharmaceuticals and fine chemicals   |

\*on request



| Structure                                 | Identification | Characteristics | Main Applications |
|---|----------------|-----------------|-------------------|
| <b>Other Reagents and Building Blocks</b> |                |                 |                   |

|  |   |   |   |
|--|---|---|---|
|   | Accelerator PT25E/2* Reaction mass of 2,2'-[(4-methylphenyl) imino] bisethanol und 2-[[2-(2-hydroxyethoxy)ethyl] (4-methylphenyl)amino]-ethanol EC: 911-490-9         | Appearance: light yellow to brown viscous liquid<br>Packaging: 200 kg rolling channel drum; 1000 kg IBC, 25 kg steel can          | Polyetheramine-based plasticizer for chloro-ethylene-based polymers; emulsifier for butadiene emulsion polymerization |
|   | Dipropoxy-p-toluidine* Di-isopropanol-p-toluidine, N,N-Bis(2-hydroxypropyl)-p-toluidine CAS Reg. No. 38668-48-3 TSCA: Active  | Assay: min. 96.0%<br>Appearance: pale yellow, solidified melt<br>Packaging: 25 or 50 kg steel can, 190 kg steel drum              | Curing agent for epoxy resins   |
|   | N,N-Dihydroxyethyl-p-toluidine* DEPT, N-(p-Tolyl)-diethanolamine, Diethylol-p-toluidine CAS Reg. No. 3077-12-1 TSCA: Active   | Assay: min. 97.0%<br>Appearance: pale to yellow-brown, liquid or solidified melt<br>Packaging: 25 kg steel can, 200 kg steel drum | Curing agent for epoxy resins   |
|    | N,N-Dihydroxyethyl-m-toluidine* N,N-Dioxyethyl-m-toluidine, Diethylol-m-toluidine, N-(m-Tolyl)-diethanolamine CAS Reg. No. 91-99-6 TSCA: Active                       | Assay: min. 96.0%<br>Appearance: white to light beige solid or solidified melt<br>Packaging: 25 kg steel can, 190 kg steel drum   | Curing agent for epoxy resins   |
| <br>a,b ≥ 1<br>a+b = approx. 3.9<br>range 2...8<br>average molecular weight: 333.2g/mol | TP SGO 01661ff; "liquid DPPT", Poly[oxy(methyl-1,2-ethanediyl)], α,α'-[[[(4-methylphenyl)imino] bis(methyl-2,1-ethanediyl)] bis[χO- hydroxy- CAS Reg.No. 3064365-88-1 | Appearance: yellow to brown viscous liquid  | Curing agent for epoxy resins, liquid version of Dipropoxy-p-toluidine  |
| <b>Phosphazene</b>   |   |   |   |
|   | Hexachlorocyclo-triphosphazene (HCCP)* CAS Reg. No. 940-71-6  | Assay: min. 96.0% by area<br>Appearance: white to almost white solid<br>Lab samples available                                     | Intermediate for additives, and electronic chemicals  |
|   | Hexafluorocyclo-tri-phosphazene (HFCP)* CAS Reg.No.15599-91-4   | Assay: min. 99 % by area<br>Appearance: white colorless solid to clear liquid<br>Lab samples available                            | Additive, intermediate for additives, and electronic chemicals  |

\*on request



**SALTIGO, AS PART  
OF LANXESS,  
ACTIVELY  
CONTRIBUTES TO  
ACHIEVING  
CLIMATE GOALS**



## **CLIMATE NEUTRAL \ 2040**

LANXESS has pledged to become climate-neutral in Scope 1 and Scope 2 emissions by 2040 and in Scope 3 emissions by 2050. With this goal, we are building on our established and successful commitment to climate protection.

### **Decoupling growth and emissions**

The company will continue to grow – and in a climate-friendly manner. We are establishing a clear framework for ourselves: Suppliers and potential acquisition candidates must fit the new climate strategy and the CO<sub>2</sub> balance will be an important criterium for investments. In addition, CO<sub>2</sub> reduction will become one of the evaluation criteria in the bonus system for managers.

### **Major impact projects**

We are planning on an energy supply without coal. We will start at our sites in Nagda and Jhagadia, India. We will also continue to phase-out the use of coal in our large chemical parks.

### **Strengthening process and technology innovations**

We are revising numerous existing production processes. For example, we will further improve our combination structures, such as in the area of heat exchange between plants or in exhaust air purification. Other processes have not yet been developed on an industrial scale. We are therefore focusing our research more strongly on climate-neutral process and technology innovations.

Learn more @





**“WE AIM TO CONSTANTLY IMPROVE THE SUSTAINABILITY PERFORMANCE OF OUR PRODUCT PORTFOLIO. HERE, IT IS IMPORTANT TO UNDERSTAND AND ACCOUNT FOR THE UPSTREAM VALUE CHAIN AS WELL.”**  
**DR. CHRISTOPH SCHAFFRATH**  
 HEAD OF MARKETING & SALES

## Customized. Reliable. Sustainable.

At Saltigo, we are committed to reducing Scope 1, 2 and 3 emissions, as well, through technological innovations, energy efficiency, renewable electricity, process optimization at our sites and sourcing green raw materials.

Upon request, we offer products with a reduced Product Carbon Footprint (PCF) up to net-zero emissions.

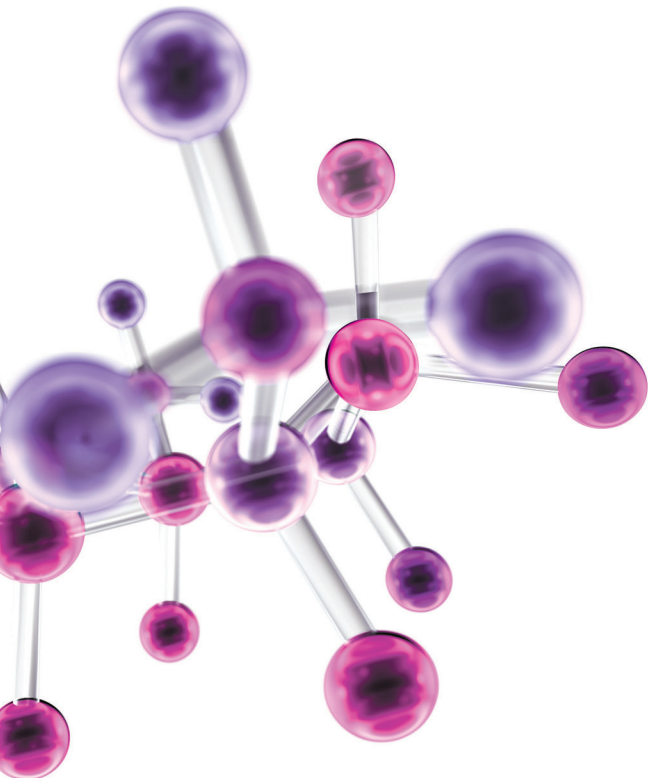
Saltigo uses the LANXESS Product Carbon Footprint Engine with a certified calculation method according to the standards of the TfS initiative, which helps our customers to further actively shape the transformation to a more sustainable future.

### Our commitment to sustainability



### Recognition in ratings and indices





### **LANXESS Corporation Saltigo**

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For more information and enquiries regarding our Fine Chemical Intermediates please contact: [fci@saltigo.com](mailto:fci@saltigo.com)

**saltigo**  
customized competence

**Health and Safety Information:** Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS products mentioned in this publication. For materials mentioned which are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets, product information and product labels. Consult your LANXESS representative in Germany or contact the Regulatory Affairs and Product Safety Department of LANXESS Deutschland GmbH or – for business in the USA – the LANXESS Corporation Product Safety and Regulatory Affairs Department in Pittsburgh, PA, USA.

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