



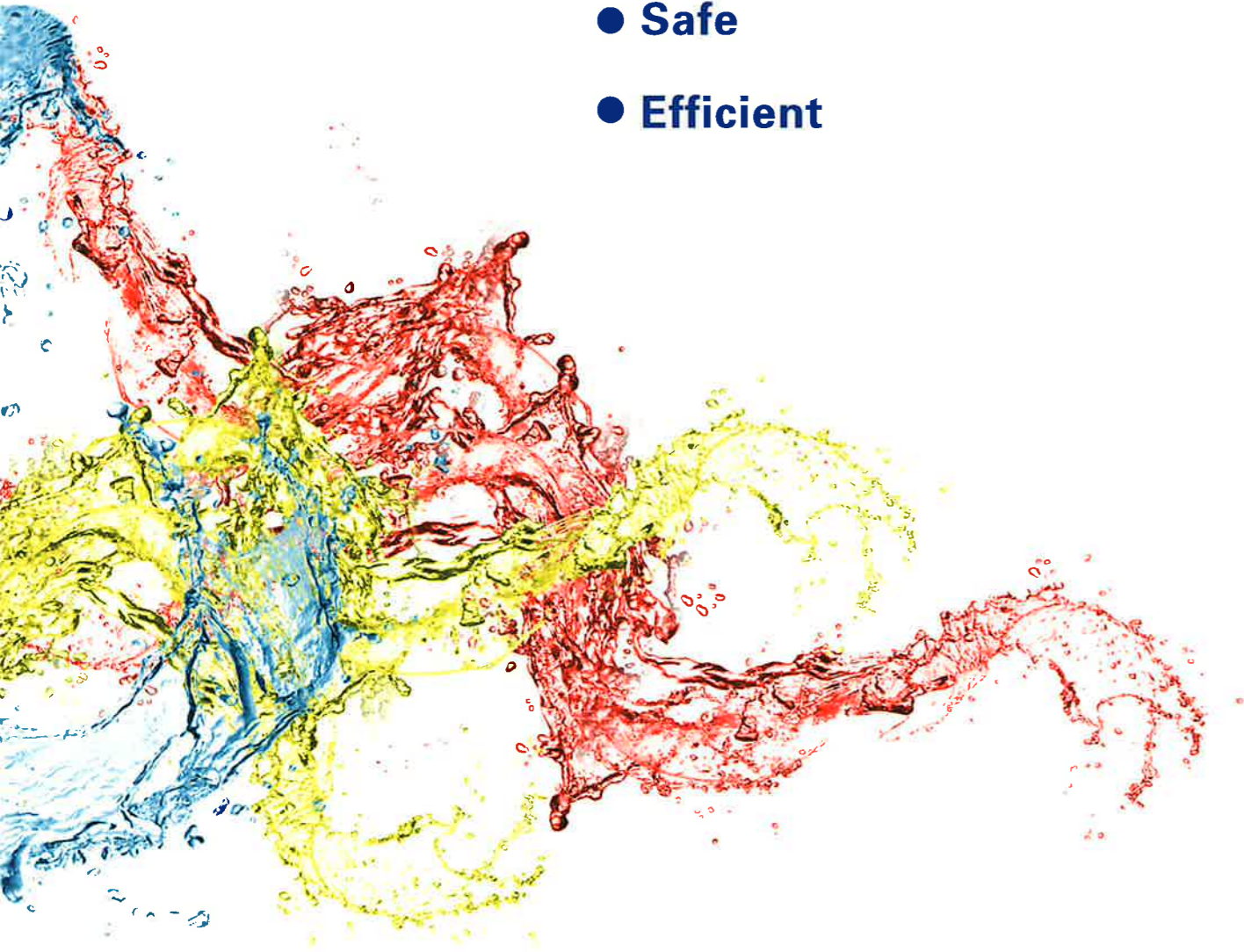
Qingdao LAF Technology Co., Ltd.



THE LEADING SUPPLIER FOR GLOBAL BULK

FLUIDS LOGISTICS AND PACKAGING

- Safe
- Efficient

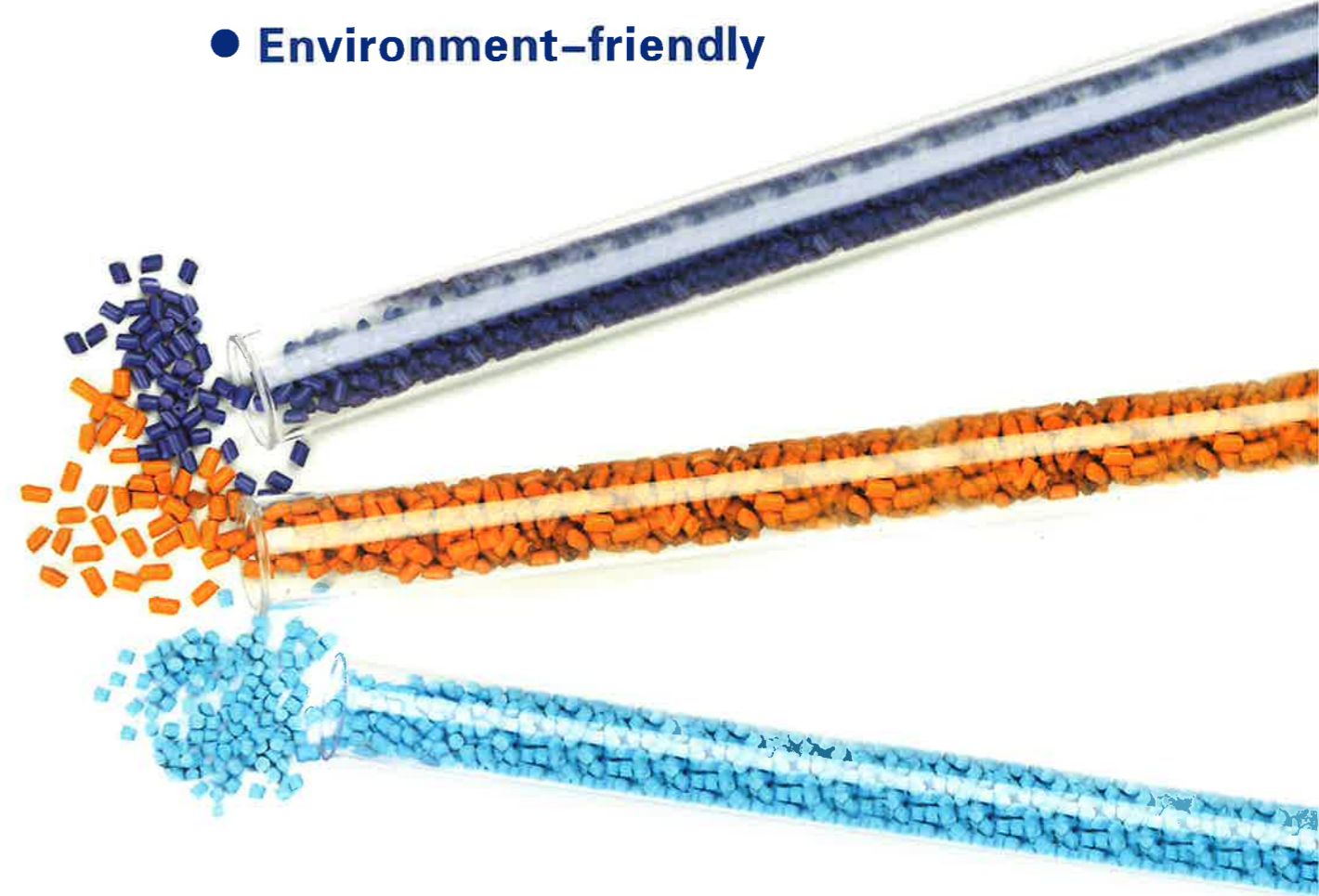


LAF combines flexitank/dry bulk liner with 20ft container, and transforms a standard 20ft container into a container that can hold non-hazardous liquids, powder or granules, realizing door-to-door containerized transportation of bulk fluids cargo.

Liquid:

all kinds of edible oil, liquid syrup, wine, juice, base oil, palm oil, oleic acid, glycerin, UCO, glycol and other liquid food or non-hazardous chemicals.

- Economical
- Environment-friendly



For bulk powder/ granule logistics, LAF provides a complete solution including automatic loading/unloading machine proposal, personalized design of dry bulk liner, and silo-to-silo one-stop logistics service.

Powder and granule:

PVC, PP, PE, PET, PTA, alumina powder, carbon black, flour, starch, coffee beans, cocoa beans and other food or non-hazardous chemicals.



Company Culture



Dedicated to being the leading supplier for global bulk fluids logistics and packaging



Customer-centered, Striver-oriented



Seeing our role as inspiring and cultivating talents, creating values for customers, undertaking social responsibilities



Passion, Innovation, Dedication, Sharing

About LAF

Qingdao LAF Technology Co., Ltd., established in 2007, offers reliable packaging products (e.g. Flexitank, Dry Bulk Liner, IBC) and door-to-door bulk fluids logistics services to clients.

With continuous development and innovation, LAF has become a world-leading manufacturer of flexitank and dry bulk liner, with its products sold to more than 100 countries and regions including the European Union, the United States, Russia, India, Brazil, Malaysia, and Indonesia, etc. LAF flexitank is certified with CRCC of China, AAR of the United States, Russian railway authority, and Ukrainian railway authority, and is approved to be on board by major shipping lines in the world. Every year, more than 6 billion liters of liquid are packed and transported worldwide with LAF flexitanks, and more than 2 billion kilograms of powder and granules are loaded and shipped worldwide with LAF dry bulk liner.

Capacity

FLEXITANK

500,000

per year

DRY BULK LINER

200,000

per year

PAPER IBC AND LINING BAGS

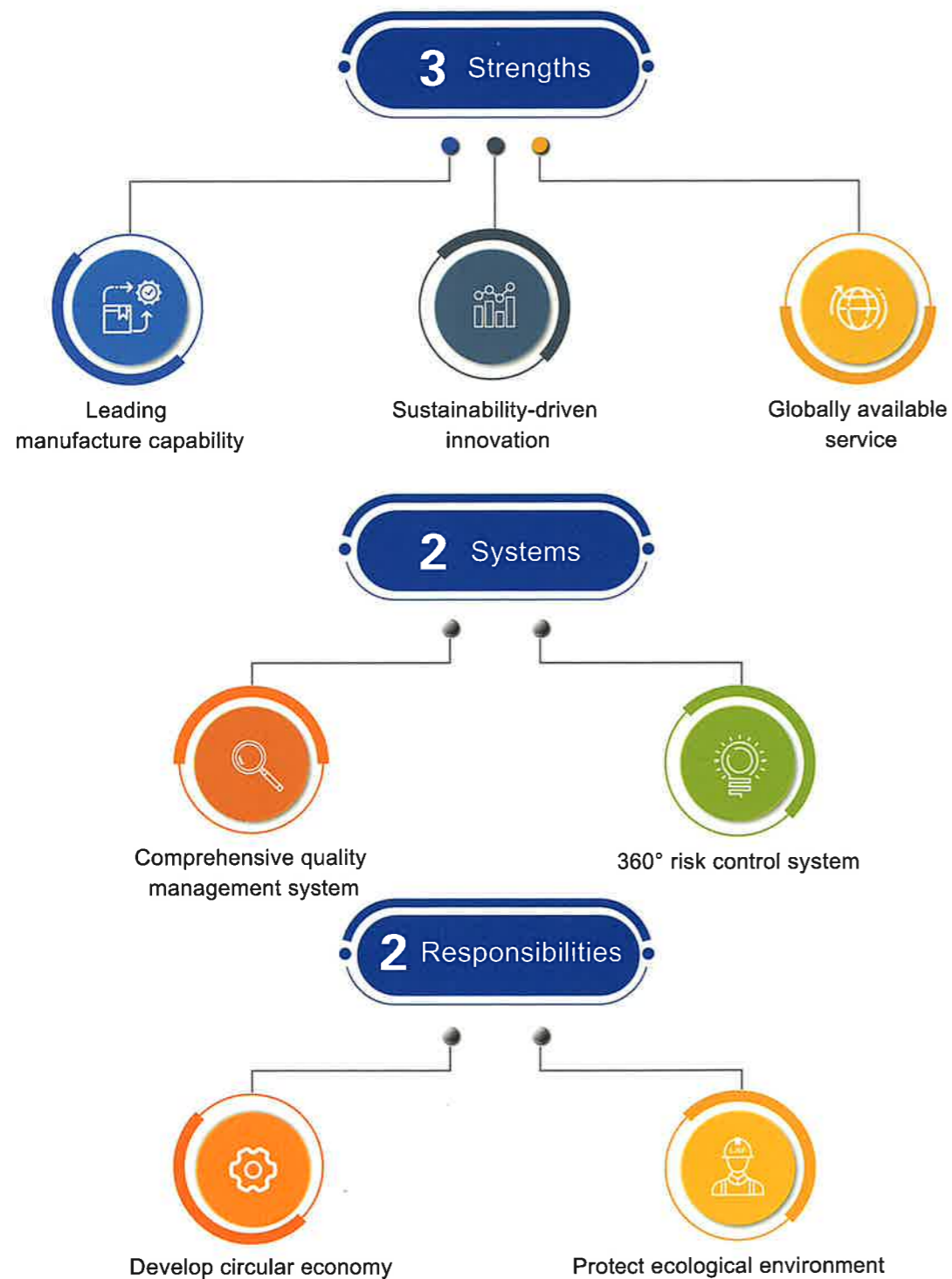
100,000

per year

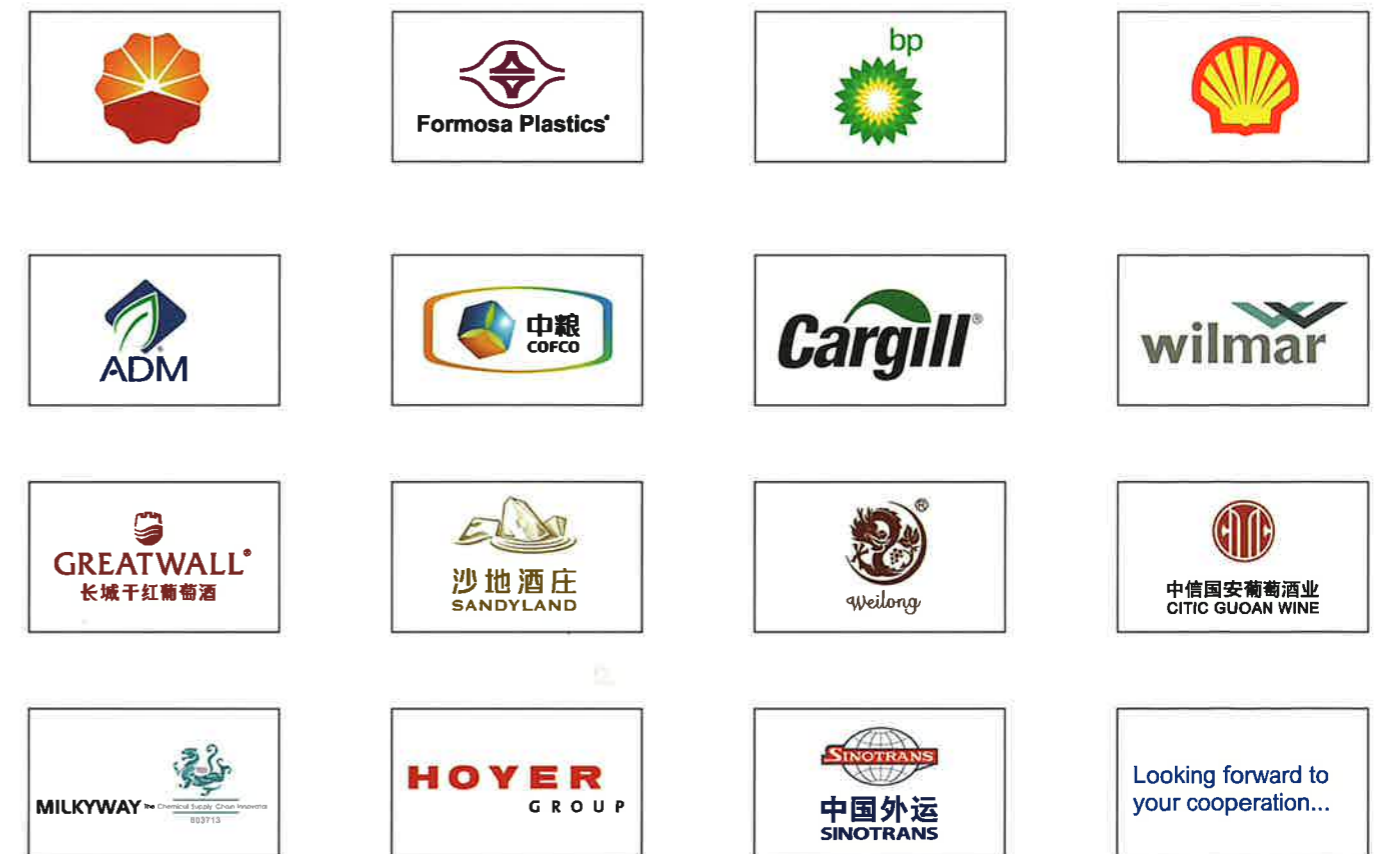
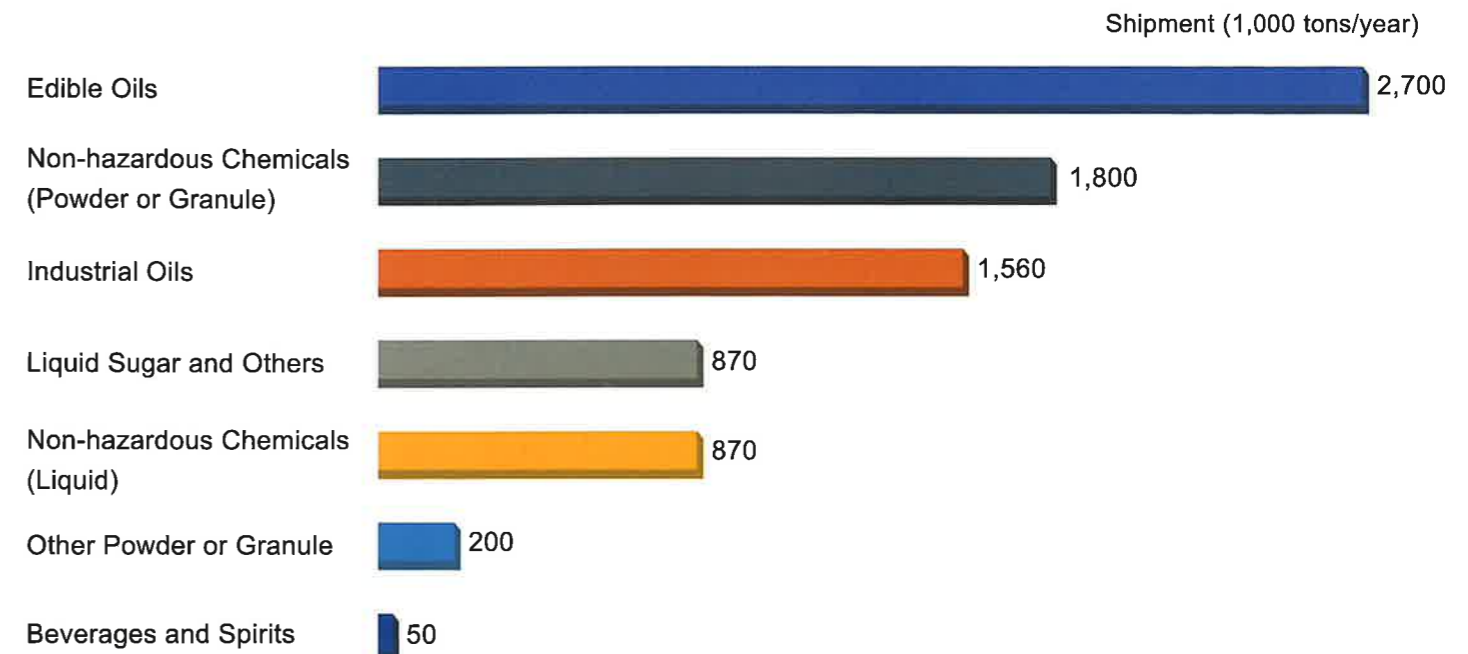


Core Competitiveness

Known for its **leading manufacture capability**, **sustainability-driven innovation** and **globally available service**, LAF coordinates its **3 strengths**, **2 systems** and **2 responsibilities** into bulk fluids packaging and logistics solution, provides safe and economical packaging products and logistics services, guarantees cargo safety via **comprehensive quality management system** and **360° risk control system**, economize on resources, reduce environmental pollution to develop a circular economy.



Served Industries & Customers



Development History

2007

2007-2010

- Set up flexitank production factory
- Got ISO9001 quality system certification
- Became a member of COA (Container Owners Association)

2014

2014-2015

- Obtained qualification of "National High-tech Enterprise"
- Passed AAR Railway Impact Test and Russian Railway Impact Test
- Workshop with annual production capacity of 200,000 bulk liners was put into use
- Obtained FSSC22000 Food Safety Management System certification
- Became one of the five permanent steering group of COA FMC
- Set up UAE branch and depot in Dubai
- Domestic operation depots and global service network were well established

2019

2019-2020

- The first flexitank brand passed CRCC railway impact test with the latest standards
- Approved by American CSX and NS railway
- Set up depots in Houston, Los Angeles, New Orleans
- Obtained ISO14001 Environment Management System certification
- Renamed as **Qingdao LAF Technology Co., Ltd.**

2011-2013

2011

- Passed COA railway impact test at AAR(TTCI)
- Got on-board approval by major shipping lines
- Factory with annual production capacity of 500,000 flexitanks was put into use
- Started domestic operation depots and global service network construction

2016

2016-2018

- Set up subsidiary company in Malaysia, Xinjiang, Qingdao and Shanghai
- Set up operation depot in Rotterdam
- Participated in the composition of international standards PAS1008:2016
- Obtained qualification of COAFQML
- Set up Karamay North Container Yard
- Identified as "Enterprise Technology Center of Shandong Province"
- Obtained Road Transport License in China

2021

2021-2025

- To build the world-leading bulk fluid packaging production facility
- To expand and improve service network with depots
- To build logistics tracing information system

Certification



INDUSTRY QUALIFICATION

- One of the five permanent steering group of COA FMC
- The only Chinese enterprise participated in drafting COA PAS1008:2016
- The first flexitank manufacturer obtained COA FQML certificate
- Obtained ISO 14001 Environment Quality Management System certification

CORE QUALIFICATION

- Flexitank brand approved by Russian railway authority
- Flexitank brand approved by China CRCC
- Flexitank brand approved by Ukrainian railway authority
- Certified flexitank brand by American CSX and NS
- Obtained road transport license in China
- Obtained FSSC22000 Food Safety System certification
- Complied with FDA and EU food safety management regulations

GOVERNMENT QUALIFICATION

- National Intellectual Property Advantage Enterprise
- National High-tech Enterprise
- Enterprise Technology Center of Shandong Province
- High-end Brand Cultivating Enterprise in Manufacturing Industry of Shandong
- Hidden Champion of Qingdao
- Famous Trademark of Qingdao



Flexitank

Flexitank is a new type of flexible packaging container that can store and transport various non-hazardous liquid cargoes. Each container can be perfectly placed in a 20-foot international standard container with a volume of 14-25 cubic meters, and can store and transport up to 25,000 liters of liquid. In this way, the container transportation method is ideally used. It is suitable for rail, road, and ocean transportation. To a certain extent, it can replace traditional packaging such as ISO tanks and iron drums, which can greatly reduce the costs of loading & unloading, packaging, transporting and warehousing, and improve logistics efficiency.

Applicable Cargoes



wine, edible oils, concentrated juice, liquid sugar, sorbitol, soy sauce, food additives, etc.



base oil, lubricant additives, transformer oil, white oil, tung oil, glycerin, engine oil, castor oil, fatty acid, palm oil etc.



plasticizer, detergents, glycol, latex, polyether, liquid fertilizer etc.

Flexitank Advantages

Flexitank PK ISO Tank



No rent, no cleaning cost.
Sufficient supply of 20ft container.

Flexitank PK Drum



More cost-effective in packaging,
loading, unloading.
Saving logistics cost.

Flexitank PK IBC



More cost-effective in in packaging,
loading, unloading.
Saving logistics cost.



Dry Bulk Liner

LAF applies dry bulk liner to dry bulk cargo transport, subverting the traditional dry bulk logistics supply chain, and improving the overall efficiency. Dry bulk liner is usually placed into a 20ft or 40ft container, which can load and transport large-tonnage granules and powder. Compared with transportation with 50/100/1000 kg bags, containerized transportation is easy to load and discharge with low labor cost, and can maximally save time and cost.

Applicable Cargoes



soybean, coffee beans, fish meal, flour, starch, white granulated sugar, salt, livestock feed.



PVC, PP, PE, PET, PTA powder or resins, alumina powder, carbon black powder etc.

Dry Bulk Liner Advantages

Maximally Utilize Container Space



container space not fully utilized



container space maximally utilized

Save Packaging Cost



20 Jumbo Bags/ 1x20'FCL



1 dry bulk liner/1x20'FCL

Save Labor Cost



high labor cost, low efficiency in loading/unloading



loading/unloading operation with 45mins by 2 operators



Collapsible Paper IBC

At present, in transportation for bulk liquid, solid, granule, powder cargoes, they are generally packed with wood box, metal box and containers. These containers have heavy weight and high cost, which are difficult to assemble, recycle, and occupy large storage space. Collapsible paper IBC can replace the above-mentioned traditional packaging modes. It has light weight, and is environment friendly and easily to recycle. It is also collapsible during transportation or storage.

Application

It's recommended for international non-hazardous liquid cargo transport with 20ft or 40ft container(s), with a volume less than 100 MT per shipment, either via rail or via sea.



Collapsible Paper IBC Advantages

Cost-effective

One 20ft container can load 20 filled IBCs (total payload around 20MT), and it can load 80 units 200L drums (total payload around 16MT). Take one 20ft container as one unit, with Paper IBCs it can load 4MT more than with drums, which is to say that one 20ft container, its payload can increase 20% -25% by changing drums into Paper IBC, can save logistics cost remarkably.

Empty paper IBC is collapsible, takes small volume during storage and delivery, saving warehousing and delivery cost.



User-friendly

It's easy to install, load, unload the IBC, no need to adjust equipment, or to train operators specially. The paper IBC box is strong and durable, it can bear 8000kg maximally with 3layers stacking.



Environmental- friendly

Paper material is 100% recyclable, free from pollution to environment.



IBC Liner

IBC liner is suitable for storage and transportation of food and non-hazardous liquid chemicals. It can be used with a variety of intermediate bulk containers, such as collapsible cartons, collapsible plastic boxes, iron drums, metal containers. To meet needs of customers, we can provide customized IBC liners.



Collapsible IBC + Liner Advantages

Index	Solid IBC	Collapsible IBC+ Liner	Remarks
capital investment			Less capital investment in collapsible IBC rent, can reduce packaging positioning cost, optimize cash flow in supply chain. By renting collapsible IBC, company can get sufficient supply in peak season, and less idle equipment in off season.
warehousing cost			Collapsible IBC, after folded, is small in size, can save warehousing space and cost obviously.
delivery and distribution cost			Collapsible IBC, after folded, is small in size, can save delivery and distribution cost significantly.
clean and disposal cost			Expensive cleaning cost is charged for used rigid plastic IBC, but the Collapsible IBC just need to change the inner liner, no cleaning is needed.



Manufacturing with Chinese Craftsmanship

Boasting superb skills and exquisite craftsmanship, LAF people adhere to the rigorous, meticulous, dedicated and responsible work attitude, observes the work philosophy of seeking for greater perfection.

Comprehensive Quality Control System

Adhering to the concept of leading technology, leading quality and advantage in cost, LAF masters core technologies of main raw materials, such as the formula of PE film and PP fabric; conducts comprehensive quality management from quality of resins to incoming materials testing, quality management during production, and to finished product inspection. We also selects premium suppliers (e.g. ExxonMobil, Dow), and continuously improve techniques to ensure product quality and safety.



PREMIUM SUPPLIER

FINISHED PRODUCT INSPECTION

RECIPE R&D

PROCESS INSPECTION

INCOMING MATERIAL TESTING

360°

Risk Prevention and Control System

To ensure cargo property security, LAF carries out comprehensive risk identification, prevention & control, and provides product liability insurance coverage for each packaging product, so as to fully protect interest of customers.

Risk Appraisal & Evaluation

1. Analyze physical and chemical properties of goods, to identify risk points in packing and transit.
2. Develop safe and suitable packaging and logistics solutions for customers.

Risk Control throughout the Process

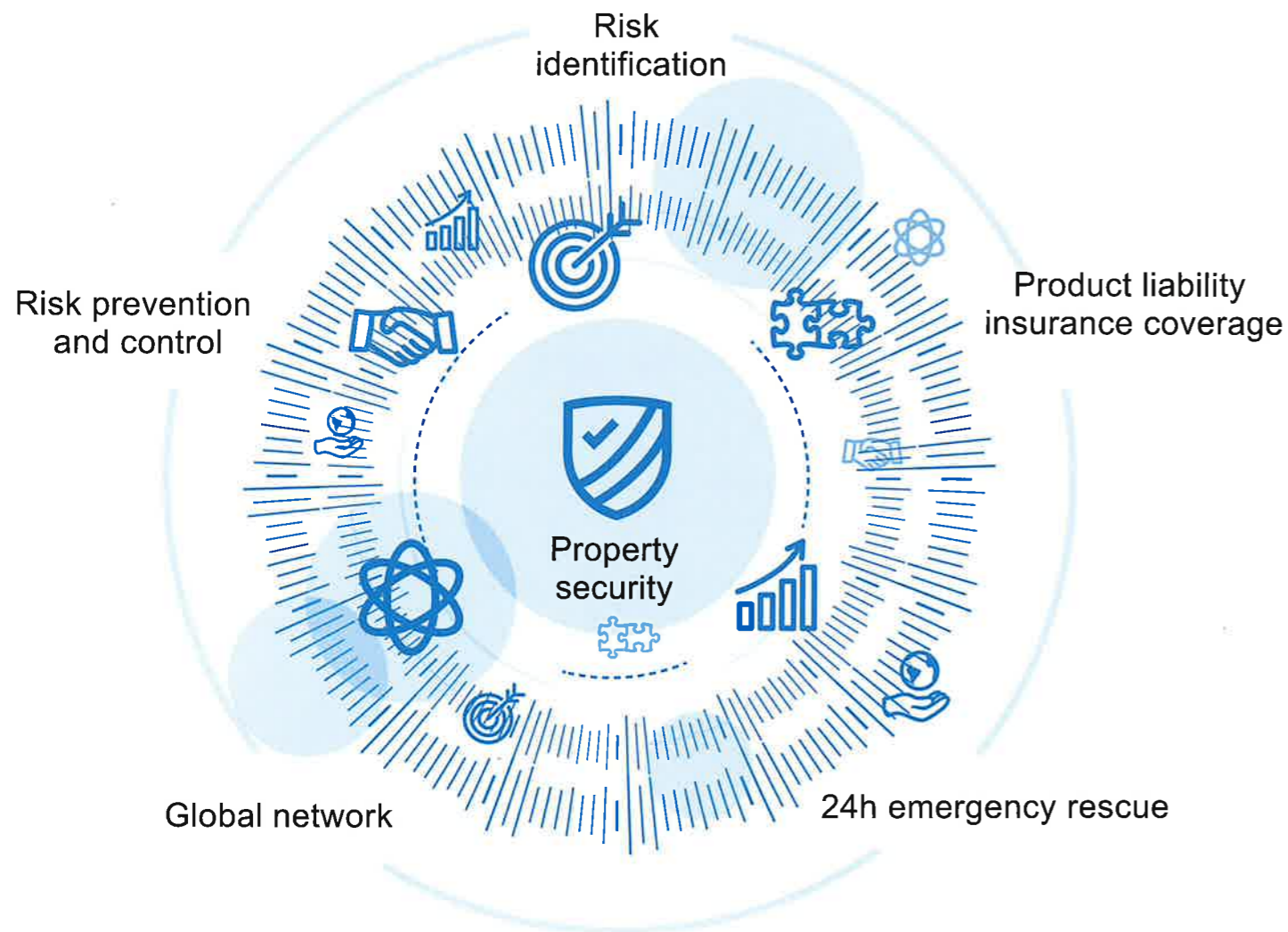
1. Senior skilled operators strictly select containers and provide professional installation to control potential risks.
2. Working with experienced carriers, e.g. trucking companies, shipping lines etc.
3. Unloading support at destination is available worldwide.

Product Liability Insurance Coverage

Insured by PICCC, with single claim max. amount up to USD 5 million.

Global Emergency Network

24h emergency service available with global network response.



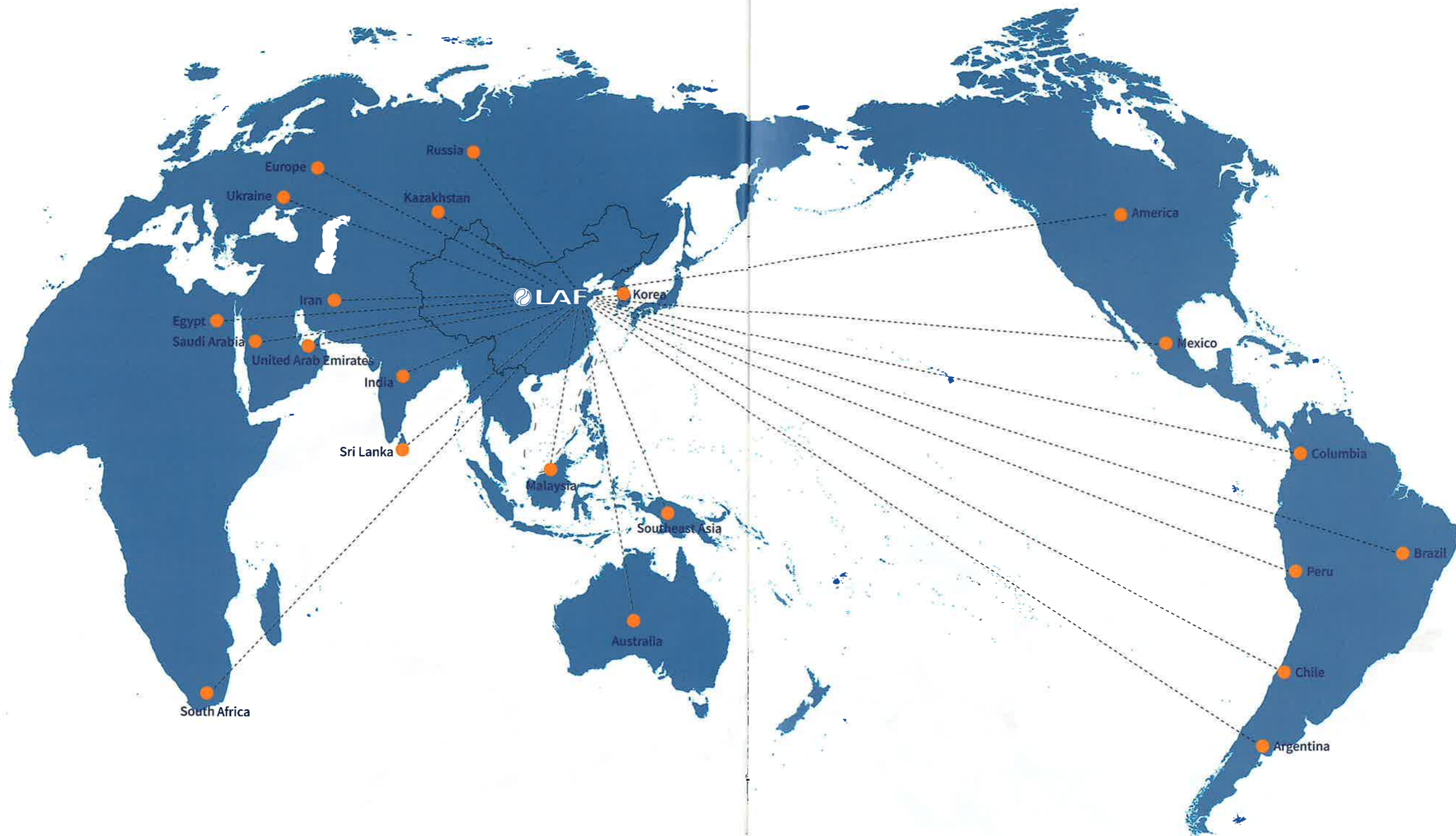
China Service Network



Each LAF depot is equipped with flexitanks, dry bulk liners and other inventory goods, and professional technical operators can provide customers with container selection, packaging material installation, cargo loading/unloading, emergency rescue, operation training and other services. Our service is available for 24hrs. Upon customer request, our depot take action immediately, to arrange product delivery, dispatch technical operators, and carry out job according to specific requirements, to fulfill customer demands in the shortest possible time.



Global Service Network



Global Service with Local Company

LAF Technology has built a service network covering over 100 countries and over 300 major ports in Southeast Asia, Europe, South America, South Africa, the United States, Canada, Australia, India, Korea, Japan and the Middle East , etc. The global service network can provide services such as cargo emergency rescue, loading and unloading support, disposal services of used flexitank, dry bulk liner, and other lining bags.



Sustainability-driven Innovation

LAF is a *National High-tech Enterprise*, the *Enterprise Technology Center of Shandong Province*, the *Enterprise Technology Center of Qingdao City* and the *Qingdao Key Laboratory of Qingdao City*, and has obtained 74 patents so far.

Special fund was set up to develop new materials with joint efforts with universities. An expert workstation for finite element analysis of flexitank, a laboratory for airtightness test of flexitank, and an internship base for polymer graduates were founded in past a few years with the Institute of Polymer Material and Engineering of Qingdao University of Science and Technology.

Studies and researches have been continuously carried out to develop new technologies for efficient and sustainable packaging and logistics solution for bulk fluids.

A chef in a white uniform and hat is pouring oil from a glass bottle into a salad on a white plate. The chef is smiling and looking at the plate. The background is blurred, showing other people in a kitchen setting.

Protect Food Safety with Professional Knowledge

LAF guarantees that all film materials in direct contact with food are manufactured with pure and virgin plastic resins. Production is in full compliance with requirements of FSSC22000 Food Safety Management System. Our products such as flexitank, dry bulk liner, and IBC liner, meet relevant regulations of packaging materials in contact with food, such as requirements specified in directives of QS, FDA, EU, Kosher and Halal, etc.



Handle Chemicals with Safety Consciousness

LAF has been engaged in non-hazardous chemicals transport for more than a decade, with rich experience in packaging, storage and transportation of non-hazardous chemicals. Our professional technical team analyzes the physical and chemical properties of chemicals, evaluates its compatibility with packaging materials, providing customers with safe packaging solutions, to ensure the stability of chemical, avoid its reaction with packaging materials and be free from interference from external environment (such as water, air and impurities). Skilled technical operators are familiar with chemical field operation regulations, they wear personal protective equipments (such as gloves, safety shoes, and helmet) and work cautiously to ensure personal safety and the environment protection during chemical loading/unloading.

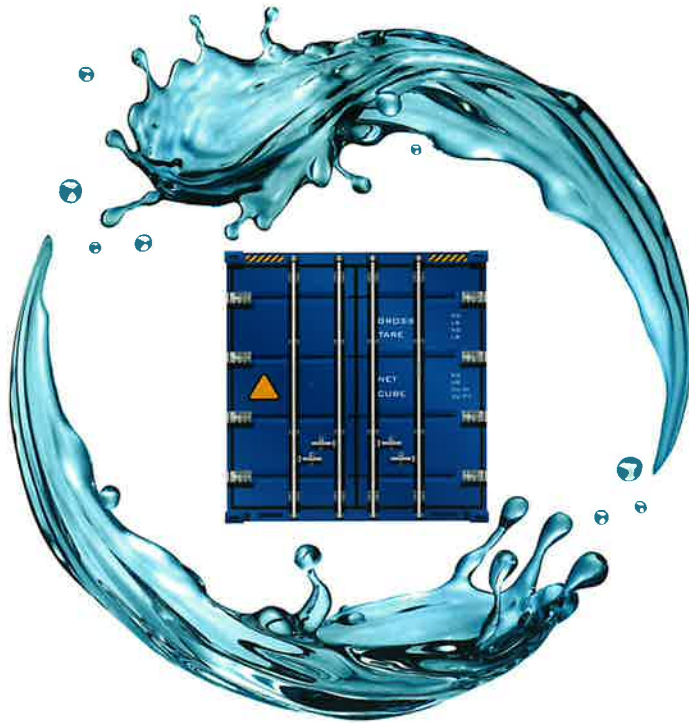
Develop Circular Economy and Protect Ecological Environment

The promotion and use of flexitanks, dry bulk liners, and IBC liners can effectively reduce solid waste and hazardous waste such as used iron drums and IBCs, reducing environment pollution, and decreasing hazardous waste disposal cost for enterprises. Used flexitank, dry bulk liner, and IBC liner can be disassembled, both polypropylene woven fabric and polyethylene film can be recycled for plastic resin production.

It conforms to the “resources-products-waste-renewable resources” process of the circular economy, can minimize the impact on natural environment.



LAF cooperates with licensed hazardous waste disposal stations to help clients with waste flexitank, dry bulk liner, and IBC liner disposal legally. At present, disposal assistance is available in Shandong, Guangdong, Beijing, Tianjin, Jiangsu, Fujian, Hunan, Shanghai, Chongqing, Jilin and other regions in China.



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