



Smart Verbund for the Future

BASF Zhanjiang Verbund Site

NIS Project

巴斯夫亚太地区护理化学品湛江表面活性剂项目组

ZVSP, Care Chemicals Asia Pacific



Agenda

1. 护理化学品业务部门简介About Care Chemicals
2. 湛江一体化基地非离子表面活性剂项目About ZVSP NIS
3. 一体化基地表面活性剂品类Portfolio of ZVSP NIS
4. 代表性行业及应用Typical Industries & Applications

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我们服务的行业 Our Serving Industries

家居护理，工业及商业清洗，工业配方技术

Home Care , Industrial & Institutional and Industrial Formulators

主要细分市场 Market segments

- 家居护理解决方案 Home Care Solution
- 工业与商业清洗 Industrial & Institutional Cleaning
- 纺织与皮革 Textile & Leather
- 涂料与胶粘剂原材料 Coatings & Adhesives raw materials
- 密封剂与弹性体 Sealants & Elastomers
- 生物工艺与生物燃料 Bioprocessing & biofuels
- 金属表面处理 Metal Surface Treatment
- 农用化学品 Agrochemicals

产品组合 Product Portfolio

表面活性剂
Surfactant

功能性聚合物
Polymers

金属螯合剂
Chelating
agents

杀菌剂
Biocide

微量元素肥料
Micro-
nutrients

蜡及电镀化学
品 Wax &
Galvano

甲基磺酸 MSA

光学效应产品
Optical Effect
Products

酯类及酰胺
Ester &
Amides

酶制剂
Enzymes

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通过持续投资支持关键增长行业

Support key growth industries with continuous investments



汽车
Automotive



建筑
Construction



高铁
High-speed Railway



电子和电器
Electronic and Electric



生活方式
Lifestyle



包装
Packaging



纺织
Textile



食品与农业
Food and Agriculture



制药
Pharmaceutical



采矿
Mining

与中国可持续性发展计划吻合

In line with China's sustainable development plan

一体化基地运作减少对环境影响和对可持续性发展做出贡献

Verbund operations reduce environmental impact and contribute to sustainability

盖斯马Geismar， 美国



安特卫普Antwerp， 比利时



路德维希港Ludwigshafen， 德国



南京Nanjing



湛江Zhanjiang

自由港Freeport， 美国



关丹Kuantan， 马来西亚



总计热能与电厂和集成化的一体化基地能源，在2021年减少了730万吨二氧化碳的排放
Combined heat and power plants and integrated energy Verbund prevented 7.3 million tons of CO₂ emissions in 2021

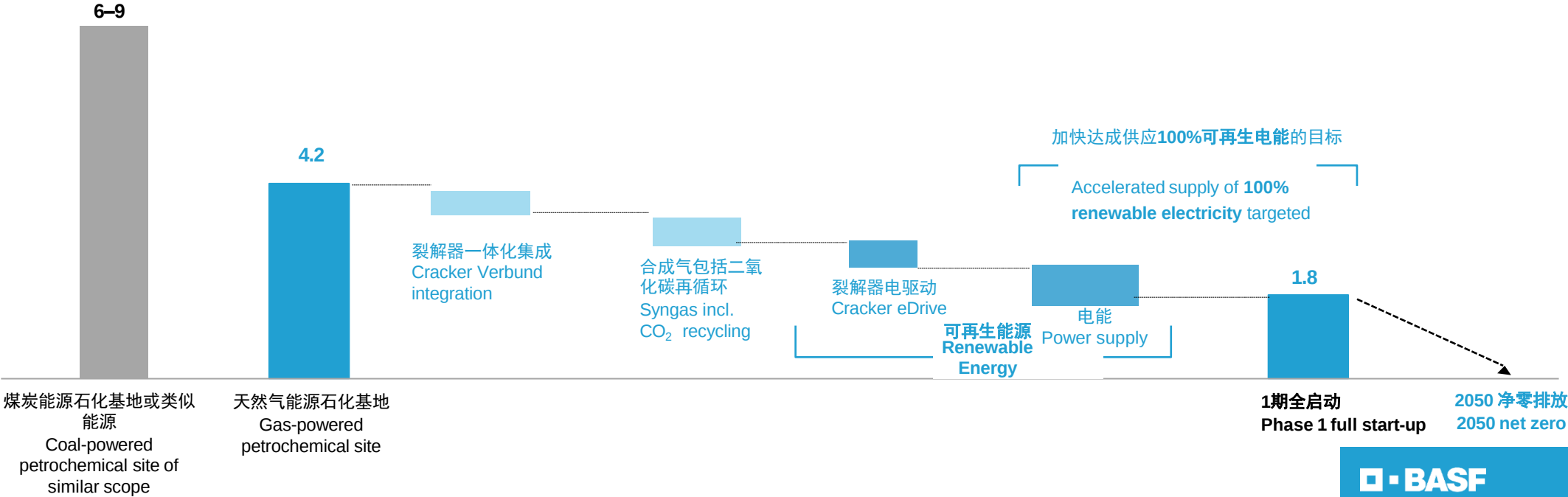
物流与基础设施的协同作用最小化废物产生
Synergies in logistics and infrastructure, minimization of waste

相较于标准天然气能源石化基地，湛江一体化基地使用最新技术以减少二氧化碳足迹

Verbund site Zhanjiang uses latest technologies to reduce CO2 footprint compared with standard gas-powered petrochemical site

预计巴斯夫在华南的湛江一体化基地减碳
Projected CO₂ emissions of BASF at Zhanjiang Verbund site in South China

(单位：百万吨/Million metric tons)



便利地理位置

Close to customer sites



湛江一体化基地至
Zhanjiang Verbund site to

关键客户所在地
Key Customer locations

大湾区 the Greater Bay Area
~500 Km

中南地区 South-Center
~1000 Km

西南地区 South-West
~1500 Km

非离子表面活性剂项目时间节点

NIS Timeline

初期 Initial phase
on stream投产: 2022-2023

先期下游车间: 用于汽车与消费行业特性材料

First downstream plants:
Performance Materials for automotive and consumer industries

工程塑料与热塑性聚氨酯
Engineering plastics and thermoplastic polyurethanes

第一期 Phase 1
启动start-up:自 2025
as of

一体化基地核心: 石化类及进一步下游车间

Heart of the Verbund:
Petrochemicals plus further downstream plants

蒸汽裂解器
Steam cracker

C2 value chain

C3 value chain

C4 value chain

非离子表面活性剂
Nonionic Surfactant

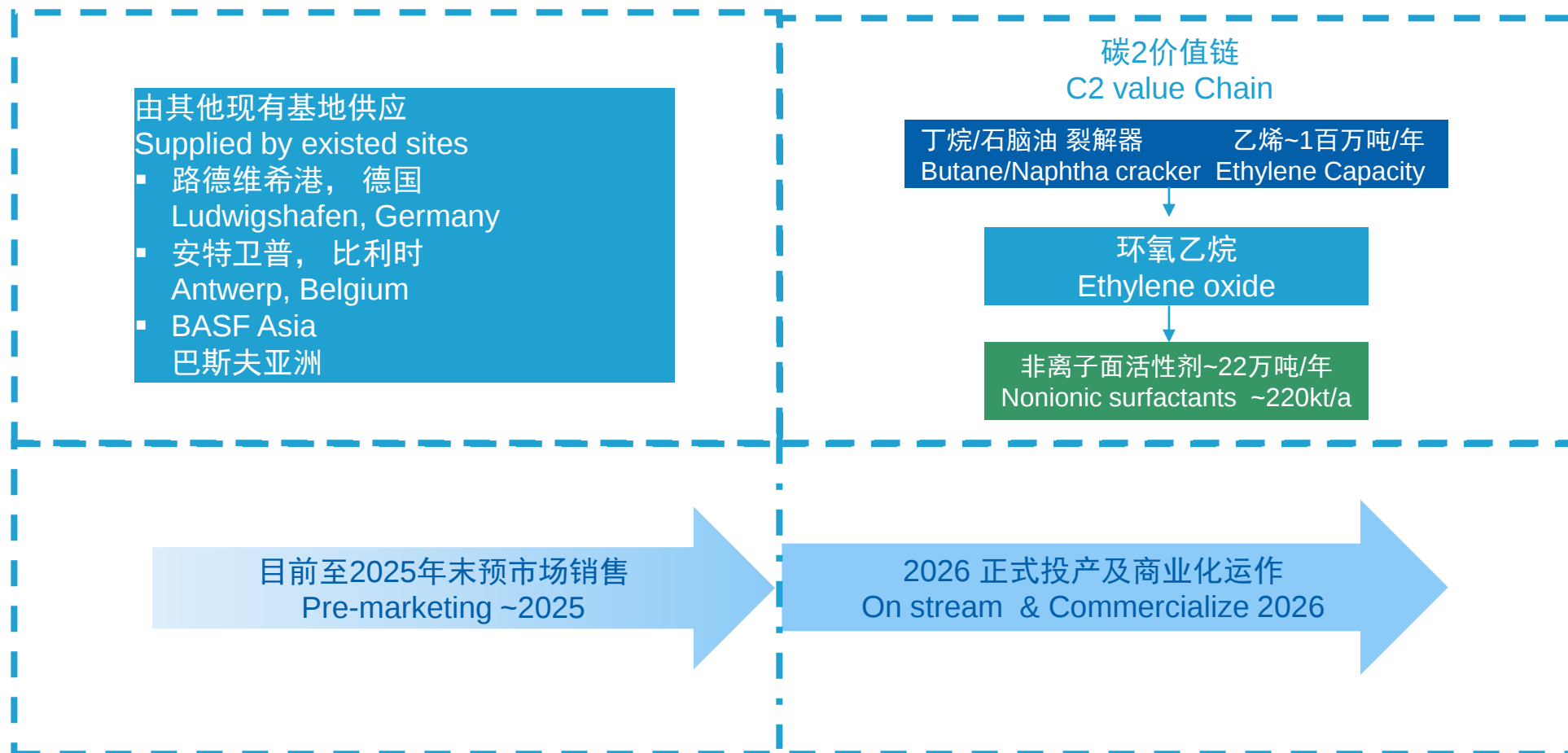
关键客户行业

Key customer industries

- 交通Transportation
- 电子Electronics
- 消费品Consumer goods
- 健康与营养Health and nutrition

非离子表面活性剂项目时间节点

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一体化基地非离子表面活性剂品类I-天然醇非离子表面活性剂

Portfolio of ZVSP NIS

商品牌号 Product Line	Lutensol [®]
化学结构 Chemistry	Alkyl-O EO C₆-C₁₈ 醇乙氧基化物 C₆-C₁₈ Alcohol ethoxylates
特性 Main Properties	润湿Wetting 起泡Foaming 去污Soil removal 乳化Emulsifier
应用行业 Main Applications	洗涤剂 and 清洁剂 Detergents & Cleaners 纺织和皮革 Textile & Leather 农化 Agro ...

Alcohol	Materials
C12-14 (EO) _n	Lutensol [®] A2N ₍₂₎ A3N ₍₃₎ A7N ₍₇₎ A9N ₍₉₎
Castrol oil	Agnique [®] CSO 35 ₍₃₅₎ CSO 40 ₍₄₀₎ ...

一体化基地非离子表面活性剂品类II-合成醇非离子表面活性剂

Portfolio of ZVSP NIS

商品牌号 Product Line	Lutensol [®] / Emulan [®]
化学结构 Chemistry	Alkyl-O EO C₆-C₁₈ 醇乙氧基化物 C₆-C₁₈ Alcohol ethoxylates
特性 Main Properties	润湿 Wetting 起泡 Foaming 去污 Soil removal 乳化 Emulsifier
应用行业 Main Applications	洗涤剂 and 清洁剂 Detergents & Cleaners 纺织和皮革 Textile & Leather 农化 Agro ...

Alcohol	Materials
C10 (EO) n	Lutensol[®] XP 30₍₃₎ 40₍₄₎ 50₍₅₎ 60₍₆₎ 70₍₇₎ 80₍₈₎ 90₍₉₎ 100₍₁₀₎ Lutensol[®] XL 40(4) 50(5) 60(6) 70(7) 80(8) 90(9) 100(10) 140(14)
C13 (EO) n	Lutensol[®] TO 3₍₃₎ 5₍₅₎ 6₍₆₎ 7₍₇₎ 8₍₈₎ 10₍₁₀₎ 12₍₁₂₎ 20₍₂₀₎ Emulan[®] TO 3070₍₃₀₎ 4070₍₄₀₎ 40₍₄₀₎ ...

一体化基地非离子表面活性剂品类III-特种非离子表面活性剂

Portfolio of ZVSP NIS

商品牌号 Product Line	Plurafac®	Pluronic®
化学结构 Chemistry	Alkyl-O EO/AO Alkyl-O EO/AO C_{1/4} C₄-C₁₈ Alcohol alkoxylates C₄-C₁₈ 醇烷氧基化物	EO PO EO PO EO PO Copolymer 嵌段聚醚
特性 Main Properties	低泡Low foaming 消泡Defoamer 润湿Wetting 去污Soil removal	低泡Low foaming 消泡Defoaming 分散Dispersant 流变改性剂 Rheology modifier
应用行业 Main Applications	洗涤剂 and 清洁剂 Detergents & Cleaners 纺织和皮革 Textile & Leather 农化 Agro ...	农化 Agro Chemicals 纺织 Textile 金属加工 Metal working 洗涤剂与清洁剂 Detergents & Cleaners ...

Materials	
Copolymer	Pluronic® PE6100; PE6200 PE6400
Alkoxylates	Plurafac® LF900; LF901



一体化基地非离子表面活性剂品类IV-聚乙二醇

Portfolio of ZVSP NIS

商品牌号 Product Line	Pluriol®
化学结构 Chemistry	EO 聚乙二醇 Polyethylene glycols
特性 Main Properties	增溶Solubilizing 分散Dispersant 粘结Binding 润滑Lubrication
应用行业 Main Applications	洗涤剂 and 清洁剂 Detergents & Cleaners 涂料 Coatings 制药 Pharma 聚酯中间体，聚氨酯 Intermediates for esters, PUR etc.

Materials	
	Pluriol® E400 E600 4000 6000 8000 10000
MW 分子量	400; 600; 4, 000; 6, 000; 8, 000; 10, 000

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代表性应用

Typical Applications

家居护理Home care

应用 Applications	适用产品 Portfolio	功能 Functionality
衣物清洁 Laundry detergent	Lutensol® AxN Lutensol® TO XL XP	高效去污 Efficient detergency 提高配方兼容性 Improve the formula compatibility
硬表面清洁 Hard surface cleaning	Lutensol® XL XP	更强的润湿性能 Superior wetting performance
留香珠 Fragrance beads	Pluriol® E	更好的分散香精 Fragrance carrier and dispersant



代表性应用

Typical Applications

公共设施与工业清洁 Institutional and Industrial Cleaning

应用 Applications	适用产品 Portfolio	功能 Functionality
商用自动洗碗机 Commercial ADW	Pluronic® Plurafac®	控制泡沫 Foam control 快速干燥 Quick drying
布草清洗 Commercial Laundry	Lutensol® AxN Lutensol® TO	乳化剂 Emulsifier 除油剂 Heavy duty detergency
公共设施清洁 Institutional Cleaning	Lutensol® XL, XP	动态润湿 Dynamic wetting 高效去污 Excellent detergency
Industrial Cleaning 工业清洗	Lutensol® AxN Lutensol® TO Lutensol® XL, XP	Superior detergency 强力去污



代表性应用

Typical Applications

纺织与皮革 Textile and Leather

Applications 应用	Portfolio 适用产品	Functionality 功能
Degreaser, Pretreatment 脱脂, 前处理	Lutensol® AxN Lutensol® TO XL X P...	Cleaning and emulsification 清洗和乳化
Posttreatment/Fiber 后整理/纤维	Pluriol® Pluronic®	Dispersion/Lubricant 分散/纤维油剂



表代性应用

Typical Applications

Agrochemicals Additives 农业化学品

Applications 应用	Portfolio 适用产品	Functionality 功能
消泡剂 Defoamer	Pluronic®	液体/半固体配方（悬浮液/乳液/悬浮液和可溶性浓缩物）的有效消泡助剂Effective anti-foaming aid for liquid/semisolid formulations(Suspensions/Emulsions/Suspo-solutions and soluble concentrates)
桶混及制剂配方内增效剂 Adjuvant for in-can and co-pack formulations	Lutensol® Plurafac®	适用于润湿蜡质表面、草和阔叶杂草，是内吸性农药的吸收增强剂。Suitable for wetting waxy surfaces, grasses and broad leaf weeds, uptake enhancers for systemic pesticides.
乳化剂/分散剂 Emulsifier/dispersant	Agnique CSO®	无需标识乳化/分散添加剂，不含NP，在REACH，TSCA，IECSCC注册Label free Emulsifying/dispersing additive, NP free, registered with REACH,TSCA,IECSC

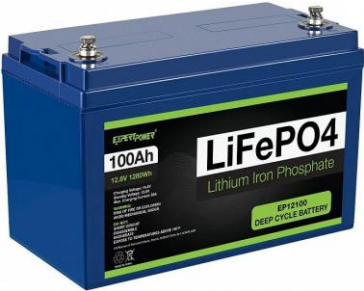


代表性应用

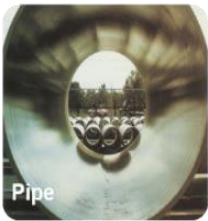
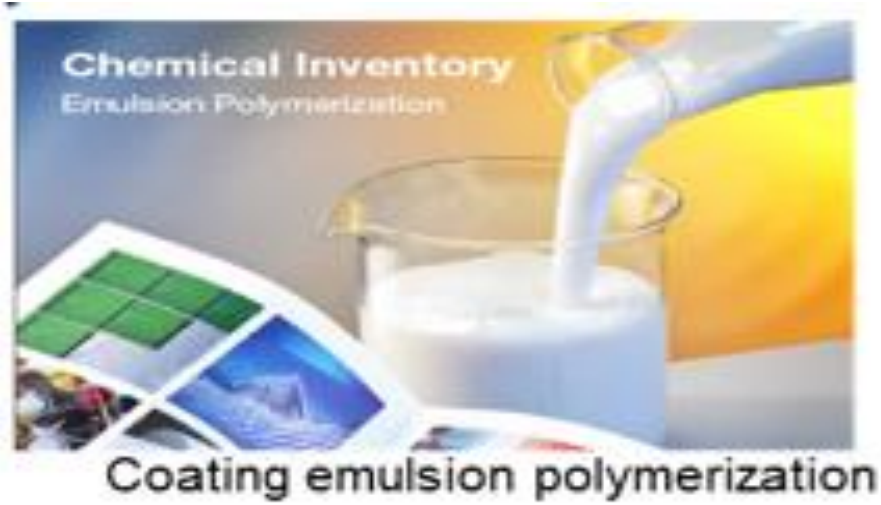
Typical Applications

Chemical Processing 化学加工工艺

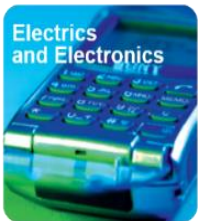
Applications 应用	Portfolio 适用产品	Functionality 功能
Lithium Battery 锂电池	Pluriol® E	Dispersion 分散剂
Glass Fiber 玻纤	Pluronic®	Sizing Agent 乳化剂
PU Thickener 聚氨酯增稠剂	Pluriol® E	Intermediate 中间体
Emulsion 乳液	Lutensol® AT,TO,XL,XP Pluronic® PE, Emulan® TO	Emulsifier 乳化剂
...	...	...



Internal



Pipe



Electrics and Electronics



Wind Energy



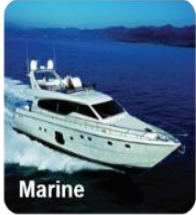
Aero Applications



Automotive



Civil Engineering



Marine



Rail Transportation

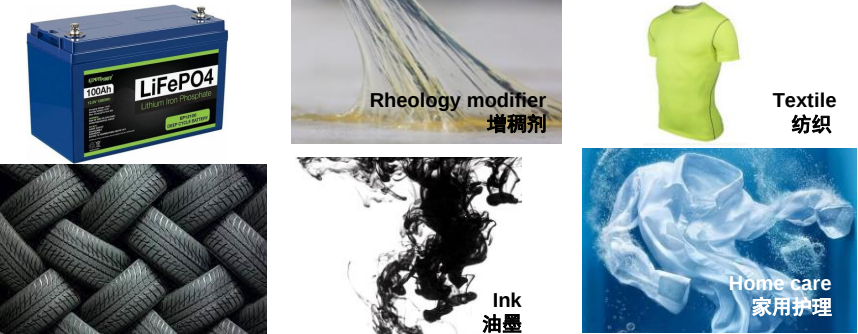
高分子量PEG和EO/PO聚合物

High Mw PEG and EO/PO copolymer

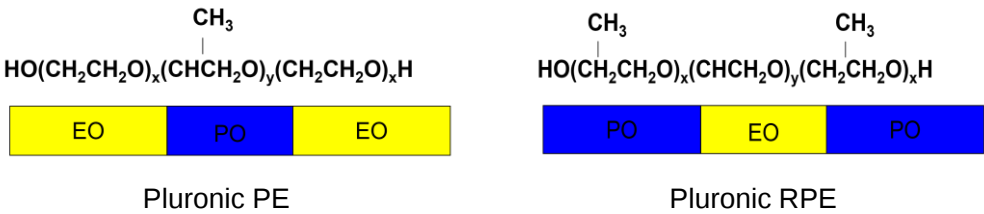
产品 Plurio E® product

产品Product	分子量Mwg/mol	形态Physical form
Pluriol E 4000	4000	片状 Flake
Pluriol E 6000	6000	片状Flake
Pluriol E 8000	8000	片状Flake
Pluriol E 9000	9000	片状Flake
Pluriol E 10000	10000	片状Flake

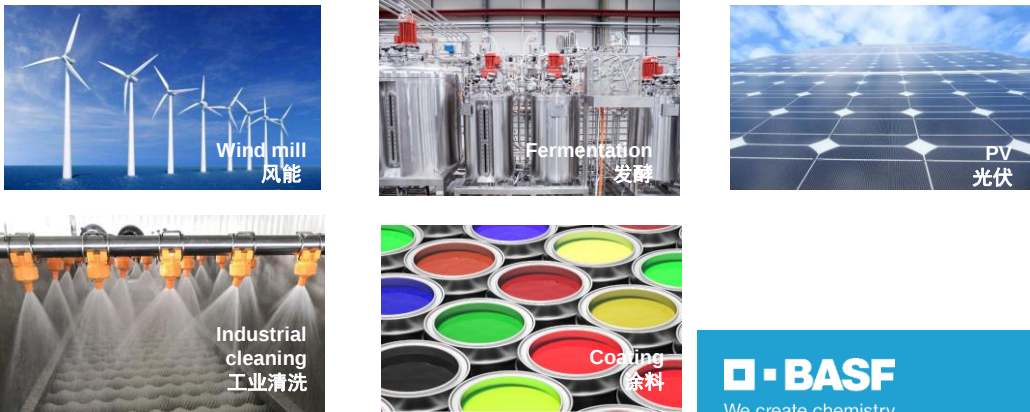
- 产品丰富可供客户选择，应用广泛
Many choices for selection of customers and wide application
- 生产工艺稳定，产品分子量分布窄
Reliable production and narrow distribution range of Mw



产品Pluronic® product



- 宽的产品线，提供很多功能
A broad product portfolio for the providing of many functions
- 产品品牌享有很高声誉，质量非常稳定
Brand with high reputation in the market and very reliable quality



新型非离子表活在家居护理的应用

New Nonionic Surfactant in Home Care

- Compared to Natural alcohol based AEO, new nonionic surfactant is based on new branched alcohol, which is more stable, economic and environment friendly in the long term.

新型非离子表活基于异构醇醚，比基于天然脂肪醇的AEO类型表活具备更稳定的供应和成本优势，且更加环保。

- Excellent detergency especially against greasy stains even at low temperature in laundry application



在织物低温洗涤中清洁能力优异，特别是针对油脂类污垢。

- Good formulation compatibility & stability and enabling solvent reduction or removal in conc. LLD & SUD

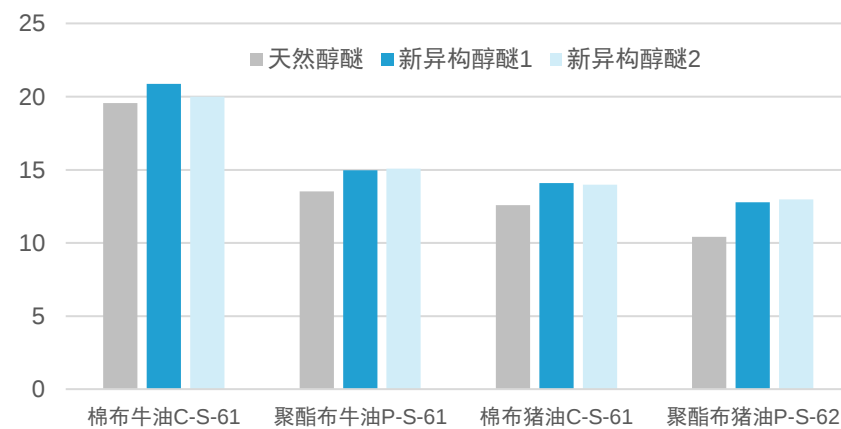


提升浓缩洗衣液和洗衣凝珠配方的兼容性和稳定性，可以减少或者去除配方中的溶剂，从而降低成本。

天然脂肪醇与异构醇历史价格对比
Nature and synthetic alcohol
historic price comparison



15° C洗涤测试, DR457



新型的阴离子表活在家居护理的应用

New Anionic Surfactant in Home Care

- New anionic surfactant with consistant performance under different water hardness as alternative of traditional anionic surfactants

可作为传统阴离子表活的替代方案，新型阴离子表活更加耐高水硬度。

- Replacement of traditional anionic surfactants for better foaming and comparable cleaning performance in dishwashing & laundry applications

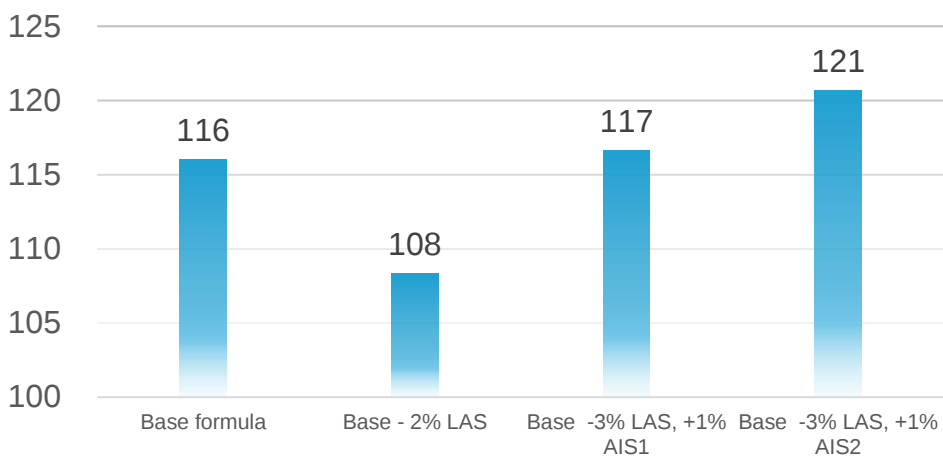
在手洗餐具和衣物清洁应用中替代传统阴离子表活，具有更好起泡能力和相当的清洁能力。



- Excellent foam boosting effect especially at hard water hardness and enabling total surfactant reduction without compromise of foaming

尤其在高水硬度下具有优异的泡沫增效性能，可降低总表活用量

Foam height experiment
泡沫高度实验



基础配方 Base formula: LAS 9.0%; AES 6.0%; NIS 1.0%
水硬度 water hardness: 250 ppm

新型低泡表活在工业和公共设施清洗的应用

New Low Foaming Surfactant in I&I

- New low foaming surfactant have excellent foam control behavior and offer superior quick dry performance as rinse aid in commercial ADW

新型低泡表活拥有出色的控泡能力，作为催干剂应用于商业自动洗碗机，提供优异的快干功能

- New low foaming surfactant have excellent dynamic wetting performance, sufficient emulsifying capacity with low odor properties, which could be used as main component in low foaming cleaner for broad industrial applications, such as wafer cutting fluid, metal pre-treatment, et al.

新型低泡表活拥有极佳的动态润湿性能，足够的乳化能力以及低泡性能，可作为低泡清洗剂的主要成分，应用于包括硅片切割液、金属前处理等广阔的工业应用。





We create chemistry