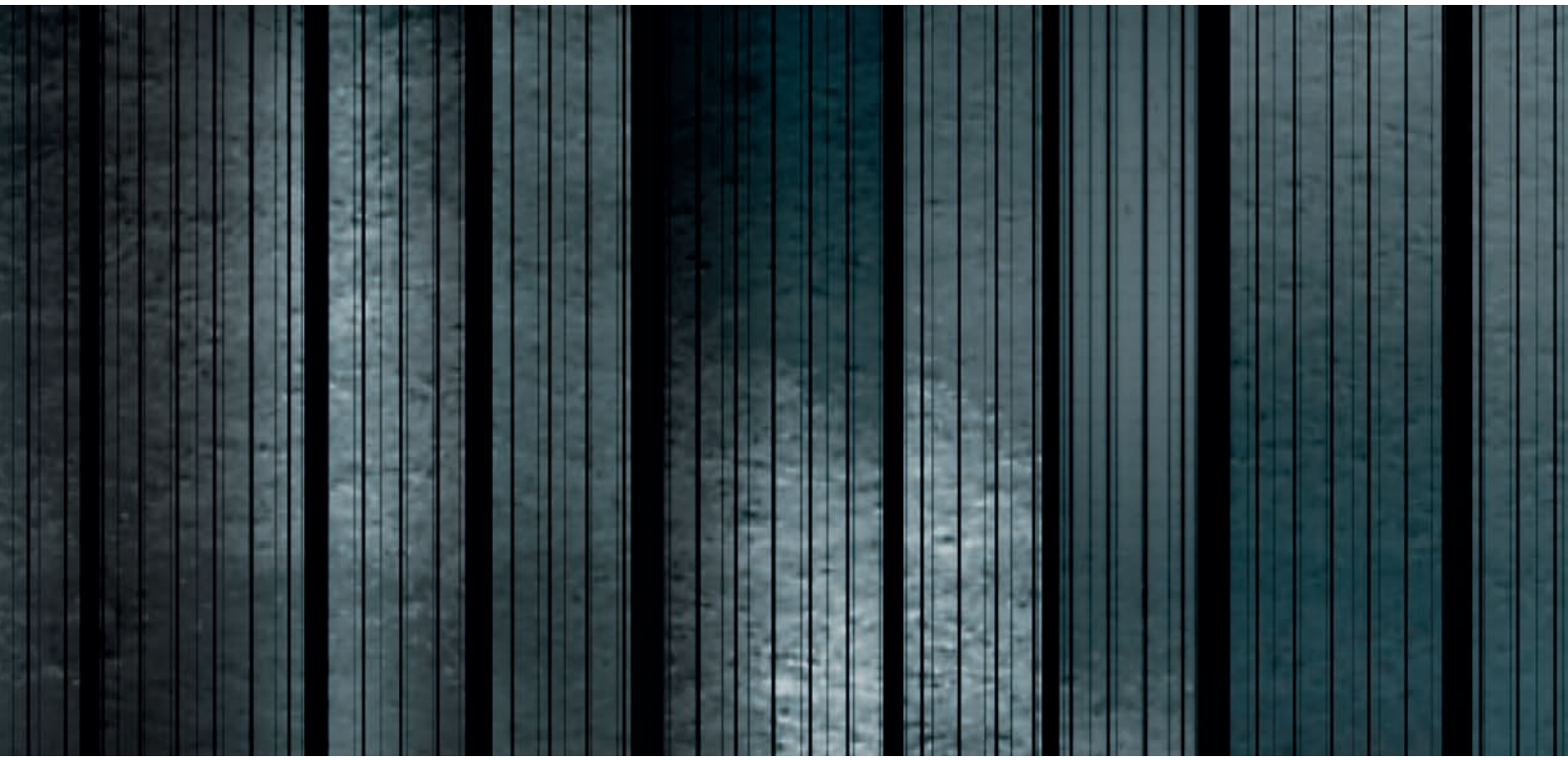

RUBBER

PRODUCT RANGE

Germany

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SYNTHETIC RUBBER

PRODUCT GROUP	PRODUCT NAME	PRODUCER	PRODUCT DESCRIPTION
ACM (acrylic rubber) HT-ACM (high-temperature acrylic rubber)	Racrester™	Osaka Soda	Vulcanizates containing ACM and especially HT-ACM are extremely resistant against heat and various media. Applications: turbo charger hoses, air intake hoses, power steering hoses, media and temperature resistant seals and membranes.
ACSM (acrylated chlorosulfonated polyethylene)	extos®	Tosoh	Vulcanizates containing ACSM have high resistance against oils and hot air as well as good weather resistance and good dynamic mechanical properties. Applications: belts, roll cover.
CPE (chlorinated polyethylene)	Dakren™	Osaka Soda	Vulcanizates containing CPE have a good ozone-, oil- and weather resistance as well as good resistance to heated air. Applications: cables, hoses, window profiles.
CR (chloroprene rubber)	Skyprene®	Tosoh	Vulcanizates containing CR have good mechanical properties. Additionally CR compounds have very good resistance against oil, many aggressive chemicals and abrasion. Applications: conveyer belts, fuel-, hydraulic- and power steering hoses.
CSM (chlorosulfonated polyethylene)	TOSO-CSM®	Tosoh	Vulcanizates containing CSM have a good flame supression behaviour. It has a good resistance against mineral oil. Applications: coated fabrics, hydraulic hoses, power steering hoses.
ECO (epichlorhydrin rubber)	EPICHLOMER®	Osaka Soda	Vulcanizates containing ECO offer a well-balanced heat resistance, oil resistance and a low-temperature flexibility. Furthermore a good resistance to ozone, low flamability and semi-conductivity is given. Applications: hoses for engines, industrial rolls, gas meter membranes.
EPDM (ethylene-propylene-diene-monomer)	Esprene®	Sumitomo Chemical	Vulcanizates containing EPDM have excellent resistance to weather influences (e.g. UV radiation, ozone, heat and humidity) and it is mostly resistant to acid and bases. In addition it has good low temperature flexibility. Applications: cables, profiles, seals.
EVA (ethylen-vinyl-acetat)	Ateva®	Celanese	EVA has excellent resistance to weather influences (e.g. UV radiation, ozone, heat and humidity). EVA copolymers are used as synthetic rubbers, or as modifiers in thermoplastics. The main differences between the grades are the content of vinyl acetate (9 - 40%) and the copolymer viscosity. Applications: Thermal lamination, medical applications, cables.

PLASTICIZERS

PRODUCT GROUP	PRODUCT NAME	PRODUCER	PRODUCT DESCRIPTION
Adipates	Cereplas™ DIDA	Valtris Enterprises	Low volatile monomeric adipate ester based on C10 branched alcohol. DIDA is providing good low temperature flexibility, as well as providing low fogging.
	Cereplas™ DOA	Valtris Enterprises	Plasticizer to improve the flexibility at low temperature. Furthermore, it reduces viscosity with good dispersion properties. Food contact applications are possible.
	Cereplas™ DTDA	Valtris Enterprises	Lowest volatile monomeric adipate ester based on C13 branched alcohol. DTDA is providing good low temperature flexibility, as well as meeting fogging requirements.
	Lincol 9	Eigenmann & Veronelli	Lincol 9, thanks to its low volatility, is used for rubber items either at low (-50°C) or high temperature (+130°C). It is also resistant to extraction.
Benzoates	Jayflex™ MB 10	ExxonMobil Chemical	Benzoate based plasticizer which is used as an alternative for critical short-chain esters.
Benzyl phthalates	Santicizer®	Valtris Specialty Chemicals	Phthalate based plasticizers, combining the following properties: Low volatility, excellent extraction resistance and a good compatibility with a wide variety of resins.
Caprylates	Lincol 102	Eigenmann & Veronelli	Lincol 102 is a synthetic plasticizer for PVC with anti-static effect, especially suitable for conveyor belts and flooring. It is effective over a wide temperature range (from -51°C to 100°C).
Citrate	CRANE® Plast ATBC	KRAHN Chemie	Odorless plasticizer with excellent characteristics of compatibility with PVC and a wide range of polymers and resins.
Ester	Lincol BAS-T	Eigenmann & Veronelli	Lincol BAS-T is a synthetic ester with no odour and a low acidity value, obtained by esterification of benzoic acid with a mixture of synthetic alcohols C12-C15 at very high linearity.
Fast fusers – Benzyl-phthalates / Carboxylates	Santicizer PLATINUM® P-1400	Valtris Specialty Chemicals	Phthalate free and fast fusing plasticizer which shows a high compatibility and efficiency, and performs with high permanence and low water solubility. Recommended for many applications, like plastisol, foam, sealant, calendering, extrusion and films.
Hexanoates	OXSOFT® 3G8	OQ Chemicals	Specialty plasticizer with low viscosity, good UV stability, low volatility and migration. Furthermore, OXSOFT® 3G8 shows excellent results as to flexibility at very low temperatures.
Phosphate ester	Santicizer®	Valtris Specialty Chemicals	Specialty plasticizers offering flame retardant and smoke suppressing properties. The phosphate ester based materials are non-halogen with high plasticizing efficiency, great compatibility in multiple polymer systems.
Phthalates	Jayflex™ DIDP Jayflex™ DINP	ExxonMobil Chemical	High molecular standard plasticizers. Due to the branching of the alcohol chains Jayflex™ DINP and DIDP have a high migration resistance und a low volatility.
	Jayflex™ DIUP	ExxonMobil Chemical	High molecular special plasticizer for rubber processing. Due to its low fogging values and high migration resistance Jayflex™ DIUP is used in automotive applications, e. g. car interior.
	Jayflex™ DTDP	ExxonMobil Chemical	Very high molecular special plasticizer for rubber processing. Due to its very high molecular weight und the outstanding low volatility, Jayflex™ DTDP is recommended for high temperature and high voltage applications.
Polymeric adipates	Santicizer®	Valtris Specialty Chemicals	Polimeric plasticizer which provides outstanding migration and extraction resistance to petrol and mineral oils. Excellent plasticizer for oil resistant cable jacketing and hoses.

PLASTICIZERS CONTINUED

PRODUCT GROUP	PRODUCT NAME	PRODUCER	PRODUCT DESCRIPTION
Sebacates	CRANE® Plast DBS	KRAHN Chemie	Monomeric sebacate ester adipate ester based on C4 branched alcohol. DBS is providing outstanding low temperature flexibility with a low initial viscosity.
	Cereplas™ DOS	Valtris Enterprises	Special monomeric sebacate ester based on C8 branched alcohol. DOS is providing outstanding low temperature flexibility and is primarly used in extreme low temperature environment.
	Cereplas™ DIDS	Valtris Enterprises	This plasticizer combines good plasticisation efficiency with superior low temperature performance and low volatility. It is used for high-grade electrical insulation and high-frequency cable sheathing.
Specialty	Lincol 6	Eigenmann & Veronelli	Lincol 6 is a special plasticizer, used in rubber industry, designed to obtain highly resistant products and to give flexibility at low temperature to fuel hoses, wire jacketing and for a wide range of molded extruded products.
	Lincol BCF	Eigenmann & Veronelli	Lincol BCF (Butyl Carbitol Formal) is a special plasticizer used in rubber industry. Lincol BCF is designed to obtain highly resistant elastomers and to give flexibility at low temperature to a wide variety of molded extruded products.
	Lincol BS	Eigenmann & Veronelli	Lincol BS is used in plastics as a non-opacifying lubricant and mold release agent for crystal-clear high-impact polystyrene and SAN, ABS injection molded articles, and as lubricant in acrylonitrile-butadiene polymers.
Specialty blends	OXSOFT® DUO1	OQ Chemicals	Blend of two low volatile esters. Features an excellent migration profile combined with good processability. The low viscosity of the product enables easy handling. Additionally, it offers very good low temperature properties.
	OXSOFT® DUO2	OQ Chemicals	Blend of two low volatile esters. OXSOFT® DUO2 features a further improved migration profile compared to OXSOFT® DUO1, but still the product is easy to process. Extraction resistance against various media and fogging values are excellent.
Terephthalates	Cereplas™ 100XS	Valtris Enterprises	Standard plasticizer, suitable for sensitive applications with direct food contact, as well as in the toy industry and for leisure products.
Trimellitates	Cereplas™ L8TM	Valtris Enterprises	This plasticizer is designed for use in flexible PVC applications where low temperature flexibility is important. The low rates of migration of L8TM from PVC ensures long service life and is strongly recommended for low “fogging” applications such as automotive internal trim.
	Cereplas™ L810TM	Valtris Enterprises	The low volatility, resistance to high temperatures, excellent low temperature performance in conjunction with good electrical properties makes L810TM especially useful for PVC cable applications. The low “fogging” values and permanence makes it ideally suited in formulating components for automotive internal trim. This product is also available as a stabilized grade.
	Cereplas™ OTM	Valtris Enterprises	This plasticizer is designed for use in flexible PVC applications where low volatility and resistance to high temperature environments is required, typically in high temperature cables. The low rates of migration of OTM from PVC ensures long service life and is strongly recommended for low “fogging” applications such as it is frequently used in the production of medical devices and is well known as a perfect replacement for 2-ethylhexyl phthalate within the medical industry. This product is also available as a stabilized grade.

RUBBER-TO-SUBSTRATE ADHESIVES

PRODUCT GROUP	PRODUCT NAME	PRODUCER	PRODUCT DESCRIPTION
Trimellitates	Jayflex™ L9TM	ExxonMobil Chemical	This plasticizer offers excellent resistance to high temperatures, excellent cold temperature flexibility, better than branched trimellitates, excellent extraction / migration resistance, low migration into PU foam, superior fogging performance, low viscosity improves processability compared to branched C9 trimellitate and L9TM would help to meet Automotive cable Class C requirements (3000 h 125°C).
	OXSOFT® TOTM LE / TOTM LE ST	OQ Chemicals	Highly permanent plasticizer, compatible with various polymers, extremely low volatility, excellent protection against calcium soaps, low fogging and good processability.
Bonding-Agents	Chemlok® Chemosil® Parlock™	Lord Germany	Bonding agents for the adhesion of many elastomers to practically all metals. The products show high adhesion strength and resistance against corrosion, high temperatures as well as oils and solvents.

ADDITIVES

Blowing agents, chemical	Unifoam AZ	Hebron	Azodicarbonamide is an exothermic chemical blowing agent for fine-pored and regular foams, e. g. insulation foams made from synthetic rubber. The pure ADC is available in various particle sizes ranging from 3.5 to 23 µm, both as standard and as low-dust Ultra series. For low temperature applications also modified grades with kicker are available.
Co-stabilizers	ESBO	Hebron	Epoxidized Soybean Oil. Secondary Plasticizer and Co-Stabilizer. Yellow liquid, low odor, available in drums, IBC‘s as well as bulk to be applied as a co-stabilizer because of its good heat resistence and as secondary plasticizer for rubber, e. g. rubber mixtures for conveyor belts or other technical rubber parts.
Metal soaps	Alugel®	Baerlocher	Aluminium di-/tri-stearate. White powder with fine particle size distribution for good lubricating properties within the compound. Following types are available: Alugel® 34 TH, Alugel® 30 DF.
	Calciumstearat	Baerlocher	Calcium stearate. Highly pure, fine powder with large surface. Used as release agent.
	MG Siel 1	Baerlocher	Magnesium stearate, white powder as mold release agent for compounds. Hydrophobic agent for bicarbonate- or phosphate containing formulations. Used as acid scavenger e. g. in chlorinated formulations.
	Natriumstearat	Baerlocher	Sodium salt of the stearic acid, sprayed, white powder. Effective release agent in compounds.
	Zincum	Baerlocher	Zinc stearates. Fine, white powder with extremely large surface with excellent release properties.
Monomers	DAISO DAP™	Osaka Soda	Diallyl phthalate monomers, cross-linking agents for unsatu- rated polyester and hot sealing compound as replacement for styrene monomer as well as cross-linking agent for PVC polymerization.

INTERMEDIATES

Alcohol	Exxal	ExxonMobil Chemical	The Exxal™ alcohols are branched, primary alcohols that contain both even-and odd-numbered hydrocarbon chains, ranging from C8 to C13.

PROCESSING AGENTS

PRODUCT GROUP	PRODUCT NAME	PRODUCER	PRODUCT DESCRIPTION
Fatty acids-derived lubricants	POLYPLASTOL 4	Eigenmann & Veronelli	POLYPLASTOL 4 is a blend of fatty esters supported on an inert carrier. It can be used for all elastomers improving mold flow and release effect. It is suitable for halogenated rubber, especially CR. It can be used for processing of aged material and recycled scraps. It is usually added at any stage of the mixing cycle, even to the open mill prior to calendering. It is also used to improve fillers' dispersion and to avoid vulcanization kinetics.
	POLYPLASTOL 6	Eigenmann & Veronelli	POLYPLASTOL 6 is a processing aid for natural and synthetic rubber. It is a zinc soap suitable for peptization of natural rubber. It can be effective at low temperature in the mastication stage of compounding. Its sulfur chelating effect on accelerators and its lubricant properties due to its long hydrocarbon chains make it suitable for usage with all polymers with exception of IIR, EPDM and halogenated rubber. It fasten also the incorporation of fillers, obtaining a shorter time for the mixing cycle. It does not give blooming effects. It is added at the beginning of the mixing cycle in the internal mixer.
	POLYPLASTOL 15	Eigenmann & Veronelli	POLYPLASTOL 15 is a blend of selected hydrocarbons and fatty acids. It is a highly effective additive used to avoid mold fouling problems connected to the use of processing aids. It is added during the mixing process to internal mixers and even to open mills. It acts both as internal lubricant during mixing and as superficial lubricant during molding, according to the different solubility and depending to the temperature. It is especially recommended for injection molding when very high temperatures are reached for a short time. The product performs well with NBR, SBR, and EPDM, even in complex and spider mold.
	POLYPLASTOL 16 BC	Eigenmann & Veronelli	POLYPLASTOL 16 BC is a blend of selected fatty acids and calcium soaps. Thanks to its lubricating properties, it is used in all the processes where is a need to decrease the stickiness of compounds which are in contact with metal surfaces. It is mainly used for CR and EPDM rubber.
	POLYPLASTOL 42 B	Eigenmann & Veronelli	POLYPLASTOL 42 B is a processing additive suitable for all elastomer compounds, mainly EPDM. It has an outstanding lubricant effect and can help processing by achieving the following effects: decrease of mooney viscosity, elimination of stickiness from the rotors of internal mixers and open mills, improvement of flow characteristics of compounds during injection molding, improvement of fillers' dispersion and good influence on batch uniformity. It also also helps to avoid tears during demolding and minimizes mold fouling, even after a very long working time of the mold. It does not affect peroxide curing.
	POLYPLASTOL 51	Eigenmann & Veronelli	POLYPLASTOL 51 is a plasticizer and anti-adhesive agent. It is suitable to solve workability problems of EVA mixtures containing large quantities of fillers such as silica, aluminum hydrate and magnesium hydrate. It is used as lubricant on rotors and in the extrusion process to reduce pressure without decreasing throughput. It may decrease crosslinking, this can be compensated by removing stearic acid from the formulation.
Activator	POLYPLASTOL 23	Eigenmann & Veronelli	POLYPLASTOL 23 is a 2-ethylhexanoate zinc salt on inorganic carrier acting as high solubility activator for natural rubber. It is designed for use in natural rubber EV–soluble vulcanizing systems. It is especially useful in manufacturing of mounting bearing pads and anti-vibrating systems in general. It can be used for masticating of natural rubber like other soluble zinc soaps. It partially reduce the quantity of stearic acid contained in compound formulation. It is used for maximum vulcanization homogeneity, to avoid crystallization during vulcanizing and to obtain good filler dispersion, to improve creep rate and compression set at low temperature and to improve mechanical characteristics and resistance to abrasion.

PROCESSING AGENTS

PRODUCT GROUP	PRODUCT NAME	PRODUCER	PRODUCT DESCRIPTION
Dispersing agents	POLYPLASTOL 19	Eigenmann & Veronelli	POLYPLASTOL 19 is a processing aid for the extrusion of synthetic (NBR, SBR) and natural rubber. It is normally used during internal mixing to improve processing without influence on the physical properties. It is a dispersing agent and gives a fast incorporation of fillers during mixing. It also reduces the risk of scorches, prevents the sticking of compounds to rotors during calendering and can be applied also on peroxide curing systems.
	POLYPLASTOL BC 1	Eigenmann & Veronelli	POLYPLASTOL BC 1 is a blend of selected fatty acids' metal soaps and special amides. It is a very effective multi-functional processing aid for high-filled polyolefin systems and it is compatible with a wide range of polymers. It is used for many different applications such as: HFFR and PVC compounds filled with hydroxides such as ATH or Mg(OH)2 in order to have a very homogeneous dispersion of the filler. It improves also elongation at break and flexibility. Or PE/PP filled with talc, non-coated CaCO3 and glass fibres - It decreases both viscosity and pressure during processing, thus increasing the productivity.
	POLYPLASTOL BC 2	Eigenmann & Veronelli	POLYPLASTOL BC 2 is a balanced blend of wide molecular weights distribution esters and polymeric resins. It is a plasticizer and dispersing agent for high polar fillers (e.g. ATH, MDH, carbonates and borates) and also a good internal lubricant for both thermoplastic and elastomeric compounds. It is highly compatible with a wide range of polymers and, in general, it is suitable as processing aid reducing the internal friction of melted compounds and the working temperatures during compounding. It does not decrease the flame retardant properties neither the mechanical performance of halogen free flame retardant compounds.
Mould cleaners	Loctite® Frekote	Henkel	Mold cleaner for removing residues of release agents, finger prints and waxes. These products are used at a temperature up to 40°C.
Mould release agents	Loctite® Frekote	Henkel	Solvent-based semi-permanent release agent with a high thermal stability for multi releases of advanced composites (epoxy systems, polyester, vinyl ester) as well as rotational molding. Depending on the product a matt finish, satin finish or gloss finish of the molded part is possible.
	Loctite® Frekote C	Henkel	Water-based semi-permanent release agents with a high thermal stability for multiple releases of advanced composites (epoxy systems, polyester, vinyl ester). The Loctite® Frekote C products are applied at room temperature and cure fast at a temperature.
	Loctite® Frekote R	Henkel	Water-based semi-permanent release agents with a high thermal stability for multiple releases of rubber parts. There is no contamination of the molded part during the molding process.
	Bonderite®	Henkel	Tenside based release agent with corrision inhibiting effect and high thermal stability for release of rubber parts.
Mould sealers	Loctite® Frekote	Henkel	Mold sealers which are easy to apply to seal molds with micro porosity and light surface blemishes. These products enhance the release advantages of Loctite® Frekote products.

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1. *Any information given on the chemical and physical characteristics of our products, including technical advice on applications whether verbally, in writing or by testing the product, is given to the best of our knowledge. However, this information is given without obligation and does not exempt the buyer from carrying out own investigations and tests in order to ascertain the product's specific suitability for the purpose intended. The buyer is solely responsible for the application, utilisation and processing of the products and must observe the laws and government regulations and the consequential rights of any third party. Any exception of the above-mentioned restrictions requires the manufacturer's express release in writing.*
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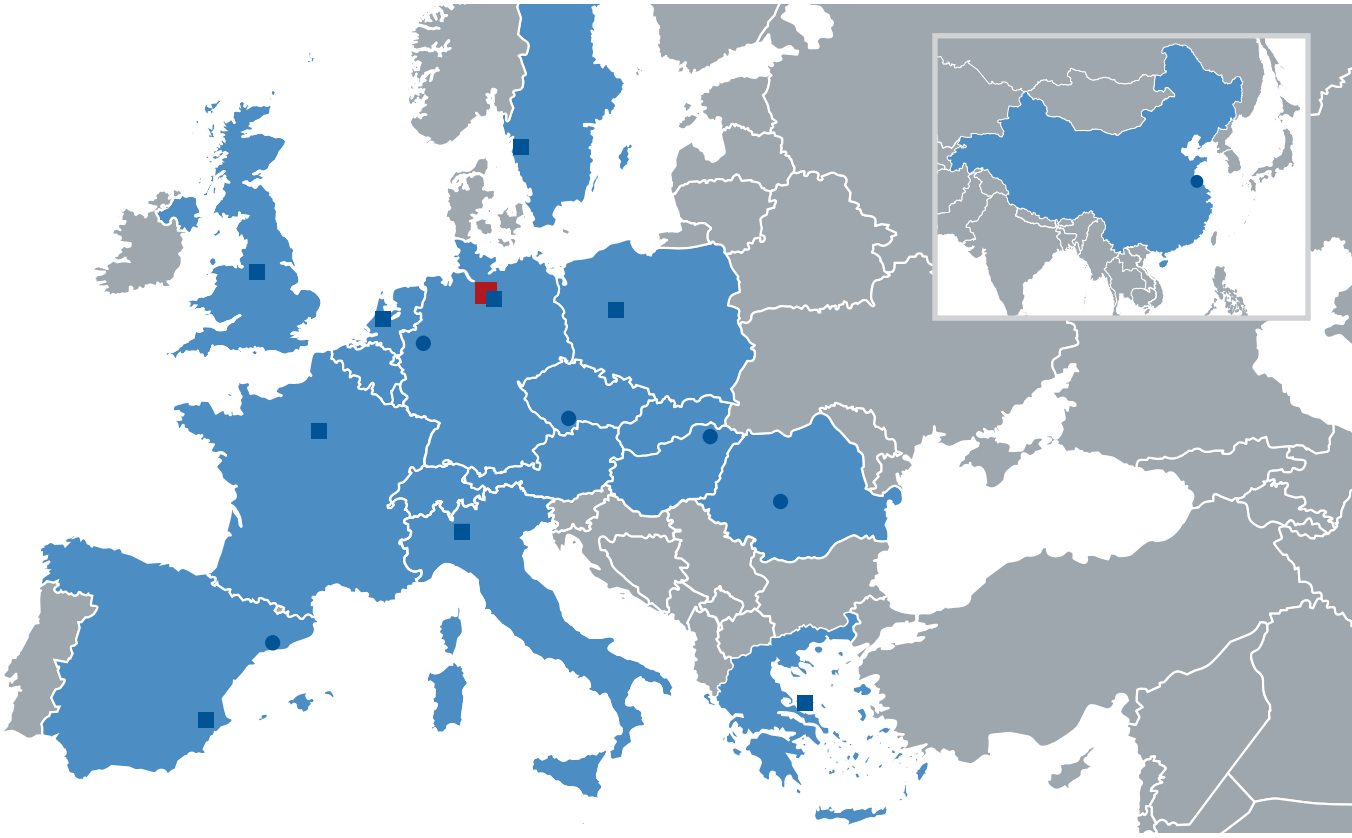

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