



DEVELOPMENT AND PRODUCTION

INNOVATIVE
INDUSTRIAL AND HOUSEHOLD CHEMICALS

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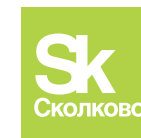


The ERCIEM LLC (Laboratory for Industrial Chemistry ERCIEM) has been operating in the industrial chemistry market since 2015, the company's developments have a long history: our products have been successfully used at the Presidential Administration of the Russian Federation enterprises, in OC Rosneft, in the JSC Russian Railways and Russia many others' flagship industry enterprises.

The company long-term goal is to create a scientific and technological centre for the chemical industry in Russia, whose work is aimed at solving such strategic national tasks as defence and security, infrastructure development, improving economic efficiency along energy conservation and environmental protection.

OUR PRINCIPLES

- Environmental friendliness.
- Security.
- Domestic components (import substitution) preferential use.



In 2019, the team became the Skolkovo innovation centre resident



OUR ADVANTAGES

Ease of use

The ERCIEM products are convenient for use in any traditional way and do not require auxiliary devices and mechanisms.

Cost reduction

Products application.
The ERCIEM reduces costs both during repair work and during the buildings, structures and mechanisms subsequent operation.

High environmental friendliness

The ERCIEM products have a hazard class 4 and do not harm human health and the environment.



ACTIVITY DIRECTIONS

PRODUCTION OF AUTHENTIC CHEMICALS FOR THE NEEDS OF THE CUSTOMER

The manufactured products reliably solve only those tasks that our Customers set for us. For each specific object, we carry out the author's control during the time required by the Customer.

WORKS PERFORMANCE BY OUR SPECIALISTS AT THE CUSTOMER'S FACILITY

The ERCIEM laboratory provides service in our specialists' direction to work at the Customer's facility with our chemicals.

DIFFERENT VOLUMES PRODUCTION UNDER THE ORDER

We produce exactly the amount required by the Customer - and in any container.

THE SITUATION ANALYSIS AT THE CUSTOMER'S OBJECT

The ERCIEM laboratory has specialists who can visit the Customer to assess the situation and assist in choosing the optimal solution.

OUR PRODUCTS

The products and technologies developed by the company are distinguished by high environmental friendliness, a characteristics unique combination, affordable price and technological ease' use.

OUR TECHNOLOGIES

The ERCIEM Industrial Chemistry Laboratory conducts extensive research work on orders from state and private companies, and also produces unique products developed by our employees, the country's leading universities graduates on its production base.



A BRIEF LIST OF OUR PRODUCTS APPLICATION AREAS



CONSTRUCTION



- concrete foundations and roofs waterproofing
- protection against water and mould in basements and bathrooms
- delicate restoration work
- swimming pools arrangement, technological pits and any structures where water needs to be retained



- gravel and sand thawing prevention in winter, bulk mixtures frozen volumes thawing
- spilling with the preparation does not affect the subsequent quality of mortar / concrete mixtures



- use in the urgent repainting process, when it is necessary to remove paint from surfaces or to clean the surface some part
- remove traces of old paint or paint splashes from places where they should not be
- premises thorough finishing cleaning after construction/renovation



- construction dust all types removal from any surfaces
- not only a solution to the tasks of finishing cleaning, but also the many production processes facilitation



ENGINEERING



- hydrocarbon contaminants all types removal, in particular, oil films removal from parts for various purposes
- the drug use dramatically increases these and similar works and processes efficiency due to the oil complete removal from the parts' surfaces treated with the composition



- a reliable solution to the corrosion protection problems for any parts metals made
- steel products prophylactic treatment with the preparation (short-term immersion or spray application) significantly increases (more than 70%) resistance to the environmental effects with different salt compositions

A BRIEF LIST OF OUR PRODUCTS APPLICATION AREAS



MINING INDUSTRY



- treatment with the drug successfully solves the bulk cargo' various types fast and complete unloading problem (crushed stone, granules, pellets, etc.) from the cars in winter, when the cargo is frozen



- corrosion protection of machines and mechanisms metal parts huge number used in the mining industry, which will significantly increase the inter-repair periods and such parts overall service life
- the preparation allows increasing the metal supports safety in high humidity underground conditions



- use to combat water and leaks in mine workings, reinforced with concrete structures, as well as for the similar structures' repair, laying new communication and infrastructure tunnels, etc



- revealing hidden surface microcracks of metal parts. Such micro defects are usually accumulated internal stresses manifestations and such parts imminent destruction precursors
- the drug allows you to quickly monitor the components and assemblies state for microcracks



OIL AND GAS PRODUCTION



- the use of the towers metal structures annual repainting processes at NGDU gives a significant saving in time, resources and increases the turnaround time



- the application is especially effective in the worksites arrangement conditions on soils with high water content, on permafrost, etc
- the preparation used in concrete collectors prevents the groundwater ingress



- the use of the towers metal structures' annual anti-corrosion treatment processes in NGDU provides significant savings in time, resources and increases the repair period



- the composition used for systematic non-destructive testing will sharply reduce the units operating accident rate under supercritical loads, avoid accidents and increase the work efficiency in general

A BRIEF LIST OF OUR PRODUCTS APPLICATION AREAS



HOUSING AND UTILITIES



- ads all kinds' removal wrote with paint on poles, asphalt and facades of houses without damaging the surface
- houses facades old paints removal in the repair and construction work process
- application (in tandem with PreoKorr) can significantly increase the turnaround time for various decorative structures made of repainted metal, for example, metal fences



- thermal and water infrastructure metal elements processing for a significant increase in the overhaul period and an increase in the protective paint and varnish coatings use efficiency



- any concrete structures successful restoration for which the water action leads to destruction (facades, curbs, steps of transitions, any abutments, etc.)
- solving completely the problems of mould and water-loving insects (mosquitoes) in the residential buildings' basements
- water leakage / seepage prevention in basements and collector ceilings



- the heat and power infrastructure flushing with the preparation dramatically increases the heat transfer and heat transfer efficiency
- saving electricity, extending the pumps service life
- reducing the fuel cost burned to heat the coolant



BRIDGES AND LARGE-SIZED METAL STRUCTURES



- paints all types' removal, including Kuzbaslak
- damage exclusion to metal structures



- reinforced concrete support foundations repair in contact with water



- use (in tandem with ColorRip) in the metal structures necessary and regular repainting processes
- the fluid composition penetrates the most difficult to access crevices and overlaps



- revealing hidden surface microcracks of structures

A BRIEF LIST OF OUR PRODUCTS APPLICATION AREAS



TRANSPORT



- solving problems of promptly removing the old advertising remnants from the buses bodies, trolleybuses, wagons, etc
- applicable for old paintwork quick complete removal when repainting rolling stock. Allows to significantly reduce the time for this work type



- such micro defects are usually accumulated internal stresses manifestations and such parts imminent destruction precursors.
- in the Russian Railways system, drug use is an alternative to the flaw detection complex procedure with ultraviolet lamps without removing the part, disassembling mechanisms and without magnetization



- successful practical application in Russian Railways when defrosting crushed stone for backfilling the upper trackbed in winter
- the drug use completely solves the problem with the crushed stone complete precipitation from hopper cars in the winter, when freezing and freezing of the cargo to the car walls makes it impossible to quickly unload, and also leads to damage to the cars

MEANS FOR WASHING CARS AND ROLLING STOCK

- successful application in Russian Railways for cars winter washing at temperatures below -20°C



- an ideal solution for metal products local processing and repair work
- after the drug application, there is no surface corrosion spread, and the paint does not swell (due to a special corrosion inhibitor action contained in the composition)



- successful application in Russian Railways for flushing diesel locomotive fuel tanks from sedimentary sludge without removing the tanks from the locomotive, using only technological holes
- successful application in washing tank wagons at the Syzran Refinery (OJSC OC Rosneft)



- use to combat water and leaks in subway tunnels reinforced with concrete structures, as well as for the similar structures' repair
- the optimal solution when carrying out repair work at any port facilities, especially in water high salinity conditions (leaks complete blocking)



- application for cleaning transport parts from carbon-hydrogen contamination residues

A BRIEF LIST OF OUR PRODUCTS APPLICATION AREAS



METALWORKING



- application for the hydrocarbon contaminants all types removal, in particular, for the oil films removal from parts for various purposes
- the drug use dramatically increases such work and processes efficiency due to the oil complete removal from the parts' surfaces after their processing



- removing old paintwork problems successful solution from any metals during equipment, machine park, tooling, etc. refurbishment repairs
- the cleaned surface intact original geometry preservation compared to sandblasting or shot blasting



- a reliable solution to the corrosion protection problems for any parts' metals made
- steel products prophylactic treatment with the preparation (short-term immersion or spray application) significantly increases (more than 70%) resistance to the environmental effects with different salt compositions



- such micro defects are usually accumulated internal stresses manifestations and such parts imminent destruction precursors
- does not require complex equipment and powerful electrical networks during operation



METALLURGY



- finished metal processing by blocking corrosion processes and preserving the products' presentation - both during long-term storage and during transportation
- steel products preventive treatment (short-term immersion treatment or spray application) to increase (by more than 70%) the resistance to the environments negative effects with different salt compositions

A BRIEF LIST OF OUR PRODUCTS APPLICATION AREAS

★ ARMED FORCES / FLEET



- convenient and effective for quickly removing old paintwork from vehicles and ships during seasonal repainting, as well as after shooting (especially in the navy)
- building facades old paint removal in the repair and construction works process
- the composition use can significantly increase the repair period for different structures made of repainted metal



- use (in tandem with ColorRip) can significantly increase the overhaul period for weapons different types, equipment, ships, decorative structures made of repainted metal
- thermal and water infrastructure metal elements' treatment with the preparation will significantly increase the repair period, increase the paint and varnish protective coatings use efficiency



- metal structures hidden surface microcracks detection. Such micro defects are usually accumulated internal stresses manifestations and such parts imminent destruction precursors
- is a simple alternative to powder testing

MEANS FOR WASHING TRANSPORT ANY KINDS, CARS AND ROLLING STOCK

- successful application in Russian Railways for cars winter washing at temperatures below -20°C



- any concrete structures repair, where the water action leads to destruction - concrete shelters, collectors, facades, curbs, transitions steps, any abutments, quay walls, etc
- completely solves the mould and water-loving insects problems (mosquitoes) in basements



- washing the heat and power infrastructure with the preparation dramatically increases the heat transfer efficiency, saves electricity, extends the pumps service life, and reduces the fuel burned cost to heat the coolant



- successful practical application in Russian Railways when defrosting crushed stone for backfilling the upper trackbed in winter
- allows speeding up the bulk cargo loading and unloading after long-term transportation in freezing temperatures



- successful application in Russian Railways for flushing diesel locomotive fuel tanks from sedimentary sludge without removing the tanks from the locomotive, using only technological holes
- successful application in washing tank wagons at the Syzran' Refinery (OJSC OC Rosneft)
- can be used when solving cleaning issues from residues of carbon-hydrogen contaminants - parts and mechanisms, oiled crushed stone, washing fuel oil storage tanks, etc

The ERCIEM LLC conducts continuous market research and develops drugs for various applications, including customized products in targeted areas. Our products are used in industry in various fields, mechanical engineering, ship repair, road facilities, housing and communal services and other areas under the brands and Customers names for whom our recipe was developed and implemented.

OUR PRODUCTS A SHORTLIST: GENERAL THEMATIC DIRECTION

1. Means for cleaning smooth and shiny surfaces, glass, mirrors, monitors, office equipment.
2. Neutral detergents for delicate surfaces manual and mechanical (scrubber) cleaning made of polished granite, marble, plastic.
3. Neutral antibacterial, preservatives with enhanced penetration effect - to biodegradable products eliminate odors' and to prevent rotting in inaccessible places (pipes, cavities, cracks).
4. Antiseptic alkaline agents with active chlorine for equipment cleaning and disinfection in the food, dairy industry, as well as for everyday household use and washing clothes.
5. Means for removing tar and soot, grease, burns from walls and frames in smoking and cooking chambers using automatic circulation systems.
6. Acid universal means for the tiles complete cleaning, technological equipment and plumbing.
7. Means for removing white plaque and efflorescence on brick, for complete cleaning of concrete mixers, as well as for cement and whitewashing removing traces after construction and renovation.
8. Low alkaline detergents with controlled foaming for washing machines, used as an aid to improve the linen and workwear washing and degreasing quality (washing powders powerful amplifiers).
9. Neutral non-damaging agents with a powerful antibacterial effect - for washing floors, walls, interiors - with washed surfaces anti-static effects and surface contamination complete elimination.
10. Means for polymerized fats burns and residues quick removal from the non-ferrous metal products surfaces (eg aluminium) and ceramics.
11. Low-alkaline detergents for cleaning refrigerating chambers - to remove oil and fat and pigment contaminants with residual odours simultaneous removal (without the need for final rinsing with water).
12. Detergents for universal use with an antibacterial effect for organic, protein, fat, animal, etc. removing complex combined contaminants character.
13. Means for removing resinous deposits and soot, caked fats residues, old burns from the walls and frames in smoking and cooking chambers.
14. Environmentally friendly (4-hazard class) means for drain pipes quick cleaning from organic nature complex contaminants.
15. Means for chewing gum residues complete removal from all types of surfaces (glass, fabric, asphalt, etc.).
16. Means for adhesive tape adhesive residues and traces complete removal from all surfaces types (glass, ceramics, fabric, etc.).
17. Means for protection against concrete, brick and stone surfaces external moisture (water repellents).
18. Means for volumes and surfaces deodorization (unwanted odours' removal) with a powerful antibacterial effect.
19. Universal detergents for washing vehicles at any time of the year (at any temperatures).
20. Universal detergents for complete finishing cleaning after renovation and construction work.



The company's products are supplied to enterprises, retail stores, construction markets and retail chains

Our products are manufactured according to our recipe, and the chemical technologies and products developed and produced by us in Russia today confidently surpass the foreign competitors' products in all key complex characteristics and have a high price availability for domestic consumers.





PENETRATION WATERPROOFING FOR CONCRETE, BRICK AND STONE STRUCTURES

PRODUCT

Penetrating waterproofing compound for aboveground, underground and roofing (for concrete, brick and stone surfaces) works.
Repairing compound for leaks quick repair and mould complete removal.

ADVANTAGES

- Increase the concrete water resistance by 4 steps (from W4 to W12 with a 2-3 mm RenoBet layer).
- Concrete strengthening and raising its class by at least two steps.
- Increasing the treated concrete frost resistance up to F300 grade and more.
- Allows carrying out waterproofing works without excavating the outer perimeter.
- Suitable for waterproofing underground and underwater concrete structures and structures.
- Has the 4th (lowest) hazard class, safe and environmentally friendly (suitable for drinking tanks)

EFFICIENCY

- Significantly (more than 2 times) cheaper than any formulations for a similar purpose; reduces the waterproofing total cost by at least 2-3 times
- Provides an increase in the turnaround time from 1-2 to 10 years

TECHNOLOGY AND OPERATION EASE

- It does not require additional equipment and equipment, it is applied like ordinary plaster
- Contains only domestic components, is imports completely independent

RELEASE FORMAT

Dry mix

PACKAGING

Metal containers, plastic, craft bags



Accepted as the Skolkovo innovation centre resident
Build Up Construction Accelerators 2019, 2020 Winner





UNIVERSAL COMPOSITION FOR CLEANING SURFACES FROM ANY PAINT AND VARNISH MATERIALS

PRODUCT

Composition for paint and varnish coatings (PVC)
all types' effective removal from surfaces of various types

ADVANTAGES

- Effective on metals, stone, glass, rubber, concrete, brick, tile and most well-known plastics
- Does not damage metals, has the passivation property
- The viscosity can be adjusted depending on its application needs (applicable even with negative surface angles)
- Has the 4th (lowest) hazard class, environmentally friendly and safe

EFFICIENCY

- It works almost instantly or in a matter of (1-8) minutes
- Fully retains working properties after freezing / thawing

TECHNOLOGY AND OPERATION EASE

- It is applied in any application convenient way (brush, roller, spraying, etc.)
- It works not only by thinning the old paintwork but also by "tearing" it from the surface to be cleaned, which makes it possible to easily clean it with compressed air or a water jet

RELEASE FORMAT

Gel, moderately viscous liquid

PACKAGING

Glass, plastic

Accepted as the Skolkovo innovation centre resident
The competitive selection winner in the Russian Railways projects accelerator-2019





CHEMICAL COMPOSITION FOR PROTECTING METAL FROM CORROSION

PRODUCT

An innovative iron oxide converter based on a complex combination, mineral salts, surfactants and corrosion inhibitors for metals long-term protection from corrosion

ADVANTAGES

- Uses an iron oxides layer (corrosion) as a raw material to create reliable protection.
- The unique microfilm that remains on the surface after using PreoCorr is not water-soluble and has high adhesion to paint and varnish coatings.
- Completely replaces primer when applied in 3 coats.
- The viscosity can be adjusted depending on its application needs (applicable even with negative surface angles).
- Has the 4th (lowest) hazard class, environmentally friendly and safe

EFFICIENCY

- Reducing combating corrosion direct costs by at least 50% due to savings in labour and material costs
- The increase in the overhaul period is 3-4 times

TECHNOLOGY AND OPERATION EASE

- It is applied in any application convenient way (brush, roller, spraying, etc.)
- Does not require special protective procedures when applied

RELEASE FORMAT

Liquid spray, gel

PACKAGING

Plastics

Accepted as the Skolkovo innovation centre resident

The competitive selection winner in the Russian Railways projects accelerator-2019





ECOLOGICAL COMPOSITION FOR CLEANING FROM HYDROCARBON CONTAMINANTS

PRODUCT

A highly environmentally friendly composition that provides waste-free and economical cleaning from pollution caused by the cleaned objects' interaction with an oil products wide range (diesel, fuel oil, etc.) - salt compositions and organic compounds innovative composition, developed according to the maximum synergetic effect criterion while maintaining environmental friendliness

ADVANTAGES

- When washing oil products, it does not form stable emulsions of the «water-in-oil» and «oil-in-water» type, as which a result the washed oil product separates itself from the NefteRip and floats to the surface
- The water content (NefteRip solution) in the oil products washed fraction does not exceed 5-8% within 15 minutes after the initial settling and can easily be reduced to 1%
- NefteRip retains its high detergent properties in the entire temperature range of 5-95°C
- After fractions separation, the washed oil products are returned to economic circulation
- Has the 4th (lowest) hazard class, environmentally friendly and safe

EFFICIENCY

- NefteRip steadily maintains its working qualities up to 100 washing cycles, which reduces the replacing the detergent composition cost and minimizes the waste product disposal volume

TECHNOLOGY AND OPERATION EASE

- NefteRip provides flushing processes in a fully closed cycle mode, without effluents, atmospheric emissions and discharges, without harm to the environment
- On the NefteRip basis, economical and highly environmentally friendly technology for washing railway tank cars has been developed and successfully applied (in preparation for repair or product replacement)

RELEASE FORMAT

Fluid

PACKAGING

Plastics





MEANS FOR PARTS, UNITS AND MECHANISMS CLEANING, FROM OILS, COOLANT AND PETROLEUM PRODUCTS RESIDUES

PRODUCT

A highly environmentally friendly composition that provides parts and assemblies reliable and economical cleaning from contamination arising in the metals industrial processing (coolant, oils, etc.), after conservation, etc

ADVANTAGES

- It does not form stable water-in-oil and oil-in-water emulsions, as which a result washed-out contaminants immediately float to the surface and are easily separated from the working solution
- After a quick and natural separation from dirt, the working solution is immediately suitable for further use without losing its high cleaning characteristics

EFFICIENCY

- High detergent characteristics are provided by the salt components' interaction synergistic effect with a surfactants organic composition that completely removes oil and fat films due to the wedging effect that occurs on the surface metal being cleaned

TECHNOLOGY AND OPERATION EASE

- NefteRip-M provides flushing processes in a fully closed cycle mode, without effluents, atmospheric emissions and discharges, without harm to the environment

RELEASE FORMAT

Fluid

PACKAGING

Plastics





COMPLETELY ENVIRONMENTAL COMPOSITION AGAINST FREEZING AND FOR BULK CARGO QUICK DEFROSTING

PRODUCT

Environmentally friendly (biodegradable) composition with high penetration characteristics, bulk cargo particles preventing freezing at negative temperatures

ADVANTAGES

- It is applicable in negative temperatures in any range from 0 °C to - 45 °C
- Stable water-soluble composition does not require special solvents
- Depending on the external temperature, the composition desired concentration is obtained by simple dilution with plain water right before use
- The working solution is highly ecological, fire- and explosion-proof, has the 4th (lowest) hazard, class
- When it comes into contact with the soil, it does not harm the environment, it is biodegradable

EFFICIENCY

- Effective when handling already bulk cargo frozen particles - it envelops and ensures bulk cargo particles separation.
- Prevents bulk cargo freezing during pre-processing

TECHNOLOGY AND OPERATION EASE

- Personnel special training and personal protective equipment are not required

APPLICATION METHOD

- Spilling a bulk cargo mass from above through a sprayer directly in the carriage or during loadin

RELEASE FORMAT

Liquid, concentrate

PACKAGING

Plastics

**Accepted as the Skolkovo innovation centre resident
Successfully approved by the Russian Railways**





HIDDEN DEFECTS EXPRESS INDICATOR

PRODUCT

A new generation expresses indicator for detecting hidden defects and performing operational non-destructive testing

ADVANTAGES

- It is used without dismantling the mechanism or its units and additional preparatory procedures (magnetization, heating, cooling, etc.)
- Effective for both magnetic and non-magnetic materials
- Has high visualization both in the optical range and in ultraviolet light (optimal range - 360-385nm) without the additional developers use
- Can be used without UV illumination and in combination with developers
- Completely environmentally friendly, fire and explosion-proof, non-toxic, chemically inert, has the 4th (lowest) hazard, class

EFFICIENCY

- The express indicator works in a seconds matter (30-60)
- The revealed effects remain visible for a long time (unlike most known penetrants)
- Allows conducting an almost instant examination of the most difficult to reach places and parts

TECHNOLOGY AND OPERATION EASE

- It does not require any additional devices and fixtures, all work is easily performed by one employee, without assistants
- Contains only domestic components, is imports completely independent

RELEASE FORMAT

Liquid spray,
special developer supplied
separately in plastic

PACKAGING

Plastics





COMPOSITION FOR INFRASTRUCTURE AND HEAT SUPPLY SYSTEMS HYDROCHEMICAL FLUSHING

PRODUCT

A surfactants innovative composition based on a non-aggressive acidic component in combination with unique corrosion inhibitors

ADVANTAGES

- Provides scale and deposits various types' effective chemical destruction in heat and power equipment and infrastructure
- Practically does not interact with heat supply systems materials
- Allows to completely abandon the harmful acids' use in the washing process
- The replacing heating systems costs and the eliminating accidents' costs are many times higher than the proposed measures' cost for hydrochemical flushing with the composition
- The working solution is eco-friendly, has the 4th (lowest) hazard, class

EFFICIENCY

- Reducing a residential building one entrance repairing risers cost by at least 3 times
- An increase in the service life of pipes and pumps by at least 2 times, saving up to 30% of fuel lost due to scale in the heat and power equipment infrastructure

TECHNOLOGY AND OPERATION EASE

- The hydrochemical flushing technology based on the T-Cleaner can be successfully applied without completely shutting down the systems, even in winter
- Contains only domestic components, is imports completely independent

RELEASE FORMAT

Fluid

PACKAGING

Plastics





**ADVANCED DEVELOPMENTS
OF DOMESTIC CHEMISTRY**

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