Tank decontamination with manual and/or automated systems

1[°] phase: reduction in fumes inside tanks

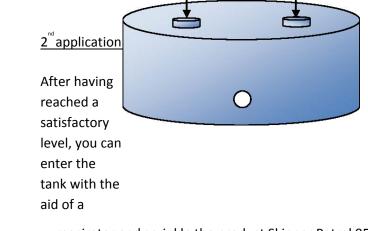
Sprinkling of the product $\underline{1}^{\mathfrak{s}}$ application

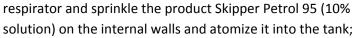
Skipper Petrol 95 Sprinkling of the product

Skipper Petrol 95 (10% solution) from the passageways above the tank.

- Sprinkling time: 2-3 hours
- Amount of sprinkled solution: 110 120 l

H₂S before the treatment: 43-44 ppm H₂S after the treatment: 28 ppm

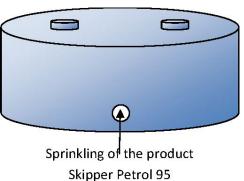




 H_2S after the second treatment: < 10 ppm

Sprinkling times and amounts, as well as H₂S concentrations, may vary according to tank size, nozzle diameter and internal temperature if not insulated.

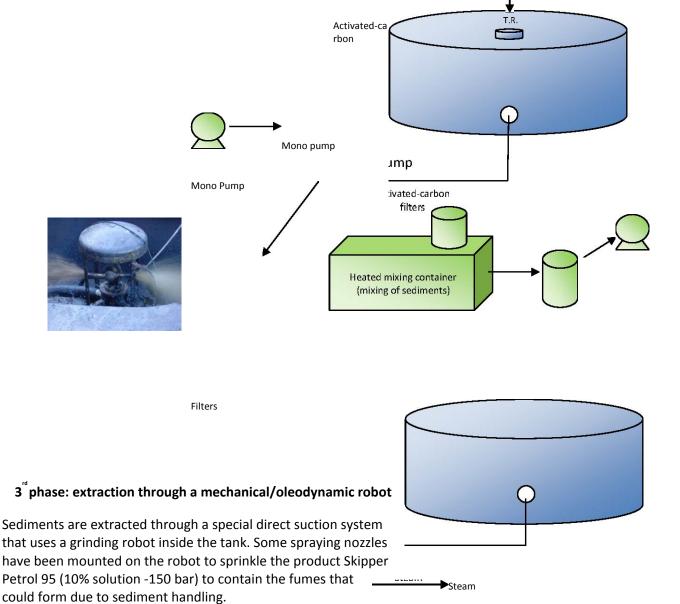
Our closed-circuit extraction system does not imply any sediment handling, but rather a direct suction that prevents other gases from being released.



2nd phase: fluidization of sediments

The fluidization of sediments takes place as follows:

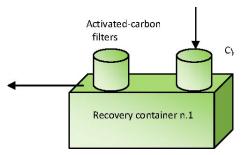
- 1 Injection of oil into the tank through one or more rotating heads to promote fluidization;
- 2 Suction of movable sediments;
- 3 Mixing in a heated container;
- 4 Passage through filters;
- 5 Transfer to the rotating head through a centrifugal pump



Rotatinghead(T.R.)



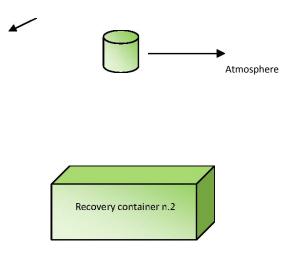




pump

Activated-carbon Activated-carbon filters filters and Denister Cyclone

Atmosphere









Here are the advantages of this technology:

- 1. The degrading action of the product MPCD Petrol allows to speed up the extraction phase and create less problems;
- 2. The fluidifying action of the product Skipper Petrol 95 allows to reduce clogging due to sediments;
- 3. This automated technology for extraction allows: More users at the same time;

Reduction of decontamination times;

The extraction of quite large sediments; To work even in areas that can be hardly reached; More safety for operators;

Grinding robot

Detail of a tank before decontamination operations





This technology allows to extract even quite large sediments

Preparationfordippingwork s









4["] phase: final washing (gas-free)

Skipper Petrol 95 (10% solution) replaces all those products that are traditionally used for the final washing of tanks, thus allowing to spare time and water:

- • Pressure: 200 atm max.
- • Temperature: a. CRUDE OIL: 40 °C
- b. OCD: 70-80 °C
- • Volume: 25 l/min.
- • CRUDE OIL: up to 60% less time;
- • OCD: up to 30-35% less time;

GAS-FREE tanks





5





Hydrodynamic washing

Modern hydrodynamic technologies and equipment, associated with the expertise and competence of our technicians, allow to intervene in several situations with rapid and safe solutions in:

THERMAL POWER PLANTS

- Condensers
- Coolants
- Electrofilters (electrostatic precipitators)
- GGH
- Boilers and ovens with hoppers
- Demisters
- OCD tanks
- Conveyor belts
- Sludge treatment plants
- Ash suction

REFINERIES

- Exchangers
- Columns
- Tanks
- Pipes
- Air coolers

STEEL PLANTS

- Oleodynamic booths
- Lamellar packs
- Air coolers
- Exchangers
- Ducts
- Tanks
- Pipes
- Galleries
- Presses
- Cranes and runways
- Continuous casting plants
- Blast furnaces
- Cold rolling mills
- Plate mills

...AND MUCH MORE











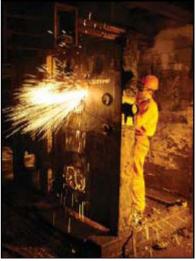




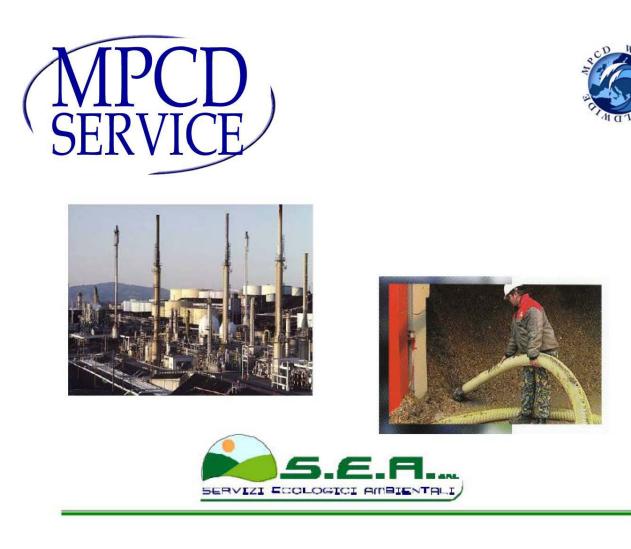








SLUDGE TREATMENT AND DEMOLITIONS



S.E.A. s.rl. ...A highly qualified partner...









Company profile

• **s.r.l.** was established to study, develop and market technologies and products for environmental restoration, tank decontamination, contaminated areas and safety issues in order to^s replace the obsolete reference techniques with more modern and eco-friendly systems. The experience gained over many years by S.E.A. technicians, the symbiotic and combined action of the most ^s, modern hydrodynamic techniques in association with the product "MPCD Skipper Petrol 95", a water-based cleansing and degreasing product that is fully biodegradable, allow to solve the problem of high-pressure hydrodynamic washing in a rapid and radical way. The versatility of our technologies, associated with our expertise, allow us to face several situations, even the most complex ones, in conditions of absolute safety.

• **s.r.l.** offers a wide range of high-tech services to reduce the environmental impact of industrial activities. These services mainly address the following sectors: oil, energy, refineries and steel plants.





Staff and equipment

The current staff is made up by 45 people including technicians, operators, as well as professional and qualified employees.

Here is a list of some of S.E.A. s.r.l. equipment:

- High-pressure motor pumps (up to 2,500 bar);
- Combined vacuum trucks;
- Combined vacuum trucks ADR;
- Movable UMAP (mobile unit for dust suction)
- Motor washing machines
- Robot for high-pressure external washing of tube bundles;
- Robot for high-pressure internal washing of tube bundles;
- Lifting trucks;
- Skid loaders;
- Excavators;
- Light trucks;
- Truck cranes up to 80 quintals;
- Movable trucks;
- 100 kW motor generators;
- Automated plant for tank decontamination;
- Lobe pumps;
- Sandblasting machines;
- 11,000 l engine compressors;
- ACCUSTRIP system;
- Volumetric oil-pressure motor pump "Moro 3000";

We also manage an equipped workshop to better customize our machines according to our clients' needs.





Certifications

S.E.A. s.r.l. has obtained the following certifications for the integrated management system for quality, environment and safety, as well as the OIMS-SARPOM qualification:

QG	IEST
organame di c	entificazione
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S.E.A.	s.r.l.
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73017 - Tre	puzzi (LE)
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• Marketing and/or application of the product Skipper Petrol 95, that is fully eco-friendly and biodegradable (degreasing and cleansing action);

- Tank decontamination with manual and/or automated systems;
- Industrial cleaning;
- High-pressure hydrodynamic washing;
- Vacuum truck and dust suction;
- Hydrodemolition;
- Sandblasting with Acustrip system;
- Painting and paint removing;
- Scarification;



Internal washing of an exchanger with an operator

Internal washing of a pipe

External washing of a tube bundle with a robot

Main clients

- ILVA s.p.a. ACCIAIERIE TARANTO
- SASOL s.p.a.
- QUADRATO COSTRUZIONI s.r.l.
- TECNOMEC ENGINEERING s.r.l.
- NUBILE s.r.l.
- M.T.A. s.p.a.
- S.T.E. s.r.l.









Internalwashingofapipe

 $\label{eq:linear} Internal washing of an exchanger with an operator$

Cleaning of a façade in Carparo stone



- ALSTOM, ENI refinery Taranto
- PITRELLI s.r.l.
- ALFALAVAL s.p.a.





MPCD Skipper Petrol 95

S.E.A. SKIPPER-Petrol is a specific product to

deeply degrease repair shops, hard surfaces,

tools, machinery, industrial equipment in general

and production areas. The simple yet effective

physical-chemical characteristics and the high

biodegradability make it a very *eco-friendly*

product that is particularly indicated for working environments:

• REPAIR SHOPS

Soiling, oil stains, etc.

• MACHINERY

Lathes, cutters, drills, cappers, etc.

• PROCESSING MATERIALS

Iron, steel, polycarbonates, etc.

• WORKING TOOLS

Tools, instruments, etc.

• SURFACES

Plates, panels, rolled metal sections, etc.

• PROCESSING ENVIRONMENTS

Floors, walls, etc.

• HEAVY-DUTY TRUCKS

Trucks, vans, body cleaning, etc.

- CHEMICAL AND PRINTING PETROL
- PRECISION ENGINEERING
- THERMAL POWER PLANTS
- STEEL PLANTS
- PETROCHEMICAL FIELDS
- REFINERIES
- PLANTS MAINTENANCE AND CLEANING
- RECLAMATION OF POLLUTED SITES

• CONTAINER CLEANING AND WASHING

Tanks, etc.

- DECONTAMINATION OF WATER POLLUTED BY OIL SPILLS
- OIL PIPELINES
- BITUMEN SPRINKLERS

Some exemplifying applications of the product Skipper Petrol 95

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