

Tank decontamination with manual and/or automated systems

1st phase: reduction in fumes inside tanks

Sprinkling of the product 1st 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

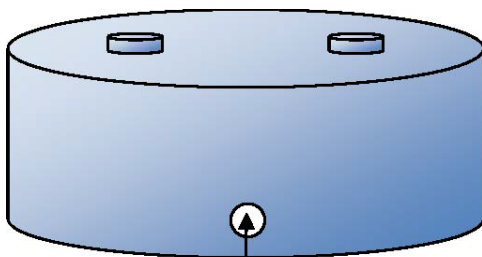
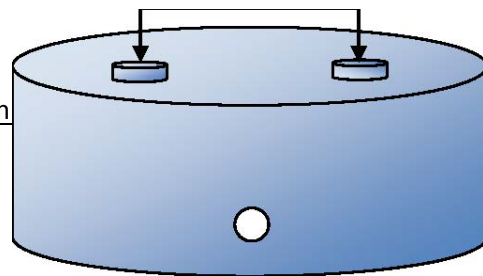
2nd application

After having reached a satisfactory level, you can enter the tank with the aid of a

respirator and sprinkle the product Skipper Petrol 95 (10% solution) on the internal walls and atomize it into the tank;

H₂S 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.



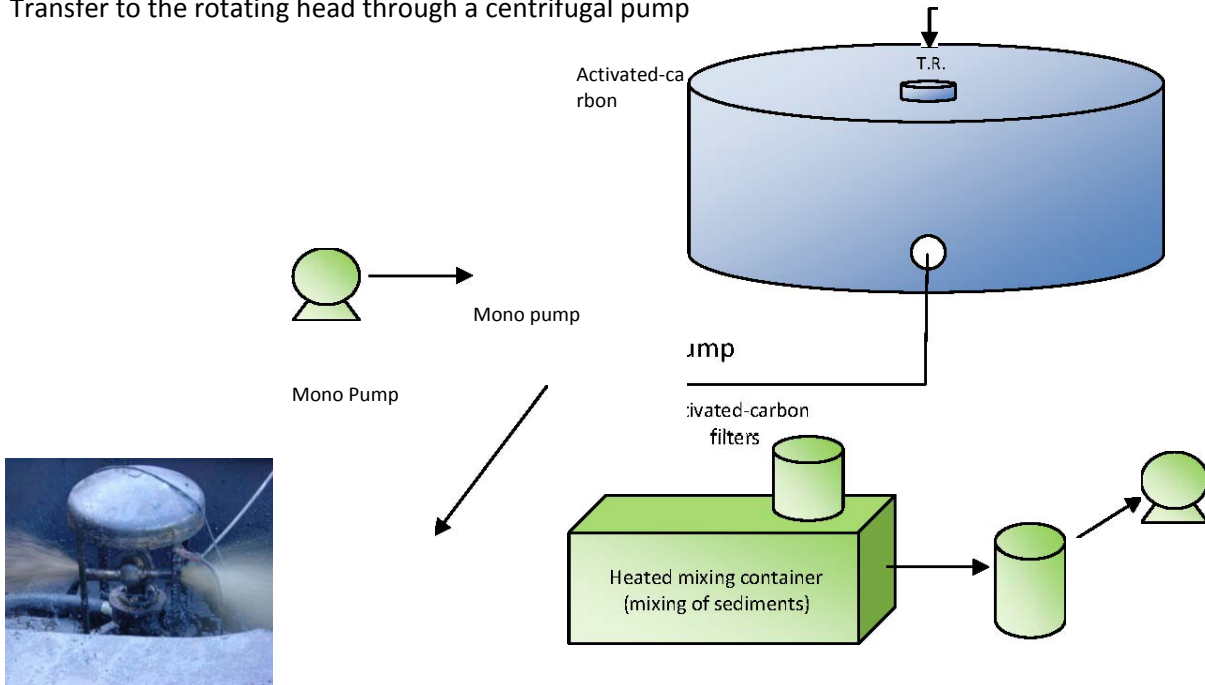
Sprinkling of the product
Skipper Petrol 95

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:

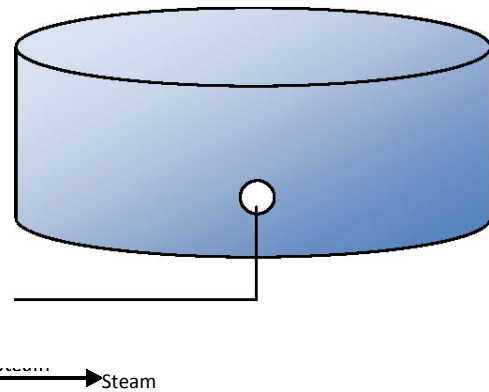
- 1 Injection of oil into the tank through one or more rotating heads to promote fluidization;
- 2 Suction of movable sediments;
- 3 Mixing in a heated container;
- 4 Passage through filters;
- 5 Transfer to the rotating head through a centrifugal pump



Filters

3rd phase: extraction through a mechanical/oleodynamic robot

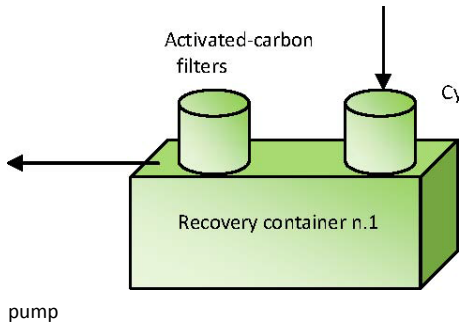
Sediments are extracted through a special direct suction system that uses a grinding robot inside the tank. Some spraying nozzles have been mounted on the robot to sprinkle the product Skipper Petrol 95 (10% solution -150 bar) to contain the fumes that could form due to sediment handling.



Rotatinghead(T.R.)

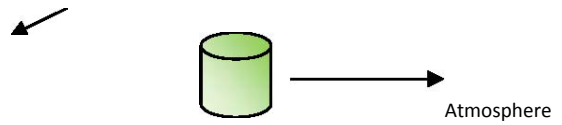
Vacuum





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



Preparation for dipping works



4th 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



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

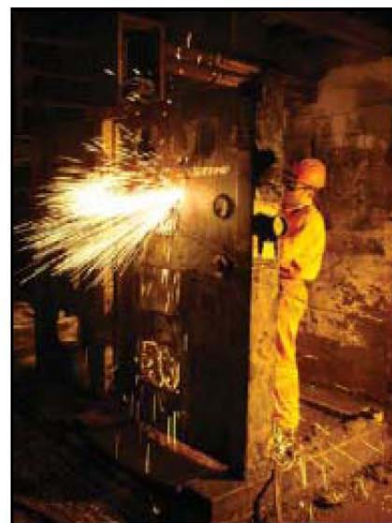
- Exchangers
- Columns
- Tanks
- Pipes
- Air coolers

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



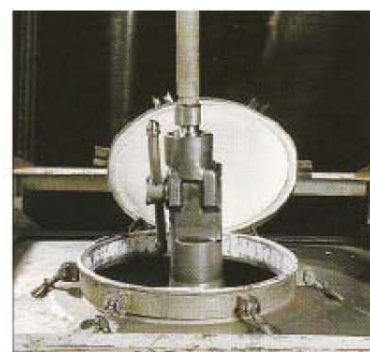


SLUDGE TREATMENT AND DEMOLITIONS

MPCD SERVICE



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 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 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:

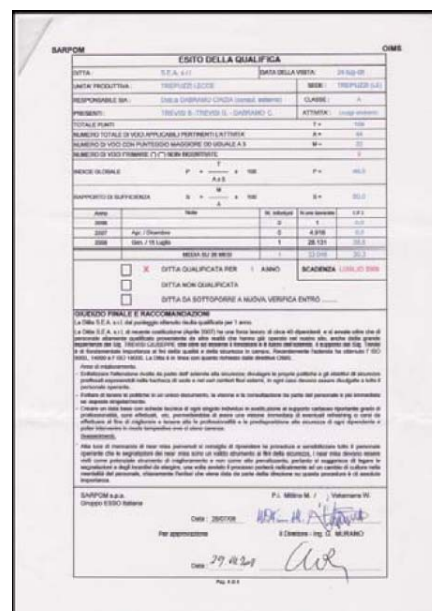
- High-pressure motor pumps (up to 2,500 bar);
- Combined vacuum trucks;
- Combined vacuum trucks – ADR;
- Movable UMAP (mobile unit for dust suction)
- Motor washing machines
- Robot for high-pressure external washing of tube bundles;
- Robot for high-pressure internal washing of tube bundles;
- Lifting 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:



Products and services

- 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 a pipe



Internal washing of a pipe

Internal washing of an exchanger with an operator

Cleaning of a façade in Carparo stone



Internal washing of an exchanger with an operator

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.
- TECNOMECH ENGINEERING s.r.l.
- NUBILE s.r.l.
- M.T.A. s.p.a.
- S.T.E. s.r.l.
- ECOTECNICA s.r.l.
- MARCATO, SARPOM refinery – Trecate

- 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**

Soil washing, Biorma

• 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

刀黎玲愀玲碗湊最梘攀愀揅 吁回刀回→

俚懔攀湊愀懔愀玲碗黎湊昀黎懔揅碗湊最明黎懔懔
酪湊玲攀懔湊愀懔明愀莎梘碗湊最黎昀愀湊碗湊攀

酪湊玲攀懔湊愀懔明愀莎梘碗湊最黎昀愀湊攀砾派梘愀湊最攀懔明梘
玲梘愀湊黎湊攀懔愀玲黎懔

