

A PUBLICATION OF ENVIRO H2O

ENVIRO CONCEPTS SPECIAL REPORT

WATER TREATMENT
for
OILY WASTEWATER

A GUIDE FOR CAR WASH BAY, MECHANICAL WORKSHOPS & CAR DEALERSHIPS

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INTRODUCTION



INTRODUCTION

What Is Trade Waste?

Any industry that produces oily waste water or wash water is required to treat the water before discharge to sewer. Wastewater containing fats, oils and grease is classified as oily water. If you are in the car wash business, own or operate a mechanical workshop or a car dealership, there are certain rules and regulations on waste water treatment that you have to follow. In this report, we will explore compliance for and treatment of oily wastewater discharge and the solutions you have at hand for your business. This report goes hand in hand with Enviro Concepts ***Washbay Wastewater Checklist*** that you can use to plan and manage your wastewater treatment projects.

Trade Waste

Trade Waste is the liquid waste from any industry, business, trade or manufacturing premises, anything other than domestic sewerage. It is illegal to discharge trade waste to the sewerage system as it can cause serious problems like blockages, corrosion and even breakdown of the system. If you are producing trade waste, you will be required to get a *trade waste approval* before you can discharge to sewer. Moreover, trade waste should also not be allowed to drain to storm water drains, street gutters or waterways.



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CHAPTER ONE



WHY IS WASH WATER HARMFUL TO THE ENVIRONMENT?



WHY IS OILY WASH WATER HARMFUL TO THE ENVIRONMENT?

(Wastewater from Car Wash & Parts Wash Bay)

Wash water from vehicle or parts wash can have harmful contaminants. Some of these contaminants are:

- **Detergents** have organic compounds (biodegradable detergents) and if they show up in freshwater, they can have poisonous effects on all kinds of aquatic life.
- **Phosphates** can cause excessive growth of algae and become a nuisance in water bodies.
- **Oil and grease**, which are always present in car wash water can contain hazardous materials including lead, zinc, chromium, arsenic, benzene, nitrates and other metals.
- Solvent-based solutions have **chemicals** like hydrofluoric acid and ammonium bifluoride products that are also harmful to living eco systems.
- High amounts of dirt or **solids** can clog pipe networks.

Car washes and mechanical workshops must route their wash water to approved drainage facilities and filtration of the wastewater must be done prior to discharge.

CHAPTER TWO



BUSINESSES THAT PRODUCE OILY WASTEWATER



BUSINESSES THAT PRODUCE OILY WASTEWATER

The motor repair and service industry is made up of a variety of businesses and almost all of them have the ability to generate trade waste. These businesses include:

- Car wash business
- Car dealership
- Motor mechanics
- Car detailers
- Panel beaters
- Service stations
- Transport depots
- Vehicle service centres
- Spray painters
- Car yards
- Secondhand car sales
- Wrecking yards
- Smash Repairs
- Steam cleaners/degreasers
- Engine or gearbox rebuilders
- Radiator repair workshops

For these businesses, Enviro Concepts provides a range of OWS (Oil Water Separators) and our skid-mounted, above ground, compliant SIOS (Solids Interceptor Oil Separator) system.

CHAPTER THREE



TYPES OF OIL WATER SEPARATORS



TYPES OF OIL WATER SEPARATORS

What determines the type of oil water separator you need for your project?

Depending on your application, oil concentration in your effluent and your requirements of water usage and performance, Enviro Concepts can offer you the appropriate oil water separation system. The chart below shows some of the readily available options we can supply to our clients:

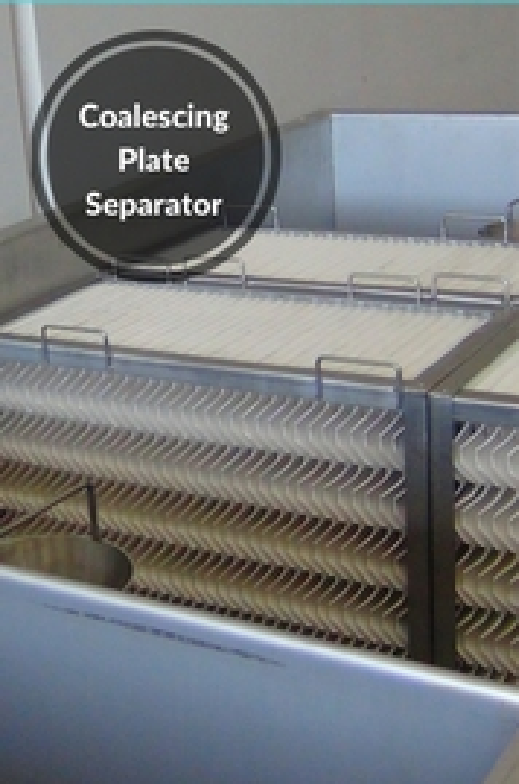
Capacity of OWS	Type of OWS
16 L/min or 0.96m ³ /h	Coalescing Plate Separator (CPS)
30 L/min or 1.8 m ³ /h	CPS/Vertical Gravity Separator (VGS)
50 L/min or 3m ³ /h	CPS/VGS/Tube Separator
100 L/min or 6m ³ /h	Dissolved Air Flotation (DAF)/CPS
100 L/min or 6m ³ /h to 3300 L/min or 198 m ³ /h	DAF/ CPS (Customised)

The category and the quantity of oil and contaminants in wash water determines the specific system to be used in the plant design. In light vehicle washes our Solids Interceptor Oil Separator (SIOS) system can be used but heavy vehicle wash water that has a high degree of suspended solids along with oil and grease, additional filtration may be needed. Detergents and soaps are designed to remove oil and grime from vehicles and equipment in car washes and mechanical workshops. If it's present in the wastewater in high quantities, it can adversely affect the function of the oil water separator. When soapy water enters the OWS, it takes significantly longer for the oil to separate from water and therefore requires a custom design. If the wash water is required to be recycled for reuse, the design will change again.

Depending on your need, our engineers can advise the type and capacity of OWS for your water treatment. If you need more information, contact us for a [free consultation](#) and we will get back to you within 24 hours!

TYPES OF OIL WATER SEPARATORS

Coalescing
Plate
Separator



Vertical
Gravity
Separator



Centrifugal
Oil Water
Separator



CHAPTER FOUR



OWS COMPLIANCE



OWS COMPLIANCE

City councils are responsible for preventing contaminants from entering the sewerage system, ensuring the health and safety of the community and the environment. They therefore set out guidelines for effective disposal of trade waste. Before you set up and use your oil water separator, make sure you apply for a Trade Waste Permit. A Trade Waste Permit is a written permission from your local council or water authority to discharge treated wastewater to sewer.

It is also the responsibility of the business owner to ensure that effluent from the washbay/work area and pre-treatment devices drain only to sewer and not into the stormwater systems. In order to do that, any outdoor washbay should be roofed and pre-treatment devices should be installed according to compliance with discharge conditions.

A separator is an important piece of equipment for workshops or businesses that produce suspended solids and oily wastewater. Regulatory bodies are authorised to take samples of wastewater to ensure that contaminants are being captured by the separator. In order to do that, regular servicing and strict maintenance practices are required.

CHAPTER FIVE



ENVIRO CONCEPTS SOLIDS INTERCEPTOR OIL SEPARATOR (SIOS)



ENVIRO CONCEPTS SOLIDS INTERCEPTOR OIL SEPARATOR (SIOS)

The Enviro Concepts Solid Interceptor Oil Separator or SIOS system is one of our top selling packaged discharge system. It is a skid mounted, pre-engineered and pre-assembled system with an OWS, compliant pump, tank and fit out. The Solid Interceptor Oil Separator (SIOS) system is used by our clients to remove up to 95% of the oils and grease in their waste water.

The SIOS filtration system collects wastewater from a washpad gutter or underground pit. Water is sent to the solids interceptor tank and it is slowed down to allow for solids to fall to the bottom of the tank and oil separation to begin. The clarified water gravity flows to the oil water separator to remove oil and grease. Treated water is then discharged as a trade waste (sewer) and the settled solids are drained back to the gutter for ease of collection and disposal.

The SIOS is approved and it is used by businesses across Australia, from mine sites to mechanical workshops.



GET A FREE ASSESSMENT

Click on the link below to send a request for a **FREE** consultation for your wastewater treatment. We will also provide you with a Free Estimate within 24-48 Hours. Contact Us Now!

[FREE CONSULTATION](#)