

DYEOXY & DYESORB

REMOVAL OF TOXIC DYE POLLUTANTS FROM WASTEWATER

INTRODUCTION

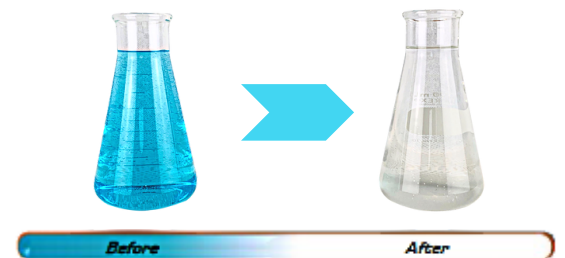
DyeOxy® and DyeSorb® is a two-step process for the removal of all types of dyes along with many other pollutants from water or wastewater. It is most effective process to attain the efficient **degradation of industrial dyes**.

Dyes are used in various industries as coloring agents. The discharge of these dyes, specifically synthetic dyes, in wastewater represent a serious environmental problem and cause public health concerns.

Dyes consist of many toxic materials and causing serious harmful impacts on the environment. Tons of dyes are discharged daily into the environment as aquatic waste. The wastewater from these industries contains very high levels of **Biological Oxygen Demand (BOD)** and **Chemical Oxygen Demand (COD)**.



Methylene Blue (MB)



Methylene Orange (MO)



DyeSorb® can be used as an outstanding adsorbent not only for Dyes but also for organics and colour in drinking water, surface water and water reuse.

DyeSorb® can be regenerated and is a reusable absorbent. Watch Water® knows the great potential and advantages of its highly porous **Metal Organic Frameworks** as ultra-stable adsorption material for the removal of

- A. Organics
- B. Organic Dyes
- C. Cationic Dyes
- D. Anionic Dyes

SELECTIVE ADSORPTION OF DYES

APPLICATIONS

- Textile Dyeing Industry
- Industrial Wastewater
- Leather Industry
- Plastic Industry
- Rapid, selective capture of organic, inorganic Heavy metals in water

TECHNICAL DATA

DYEOXY & DYESORB

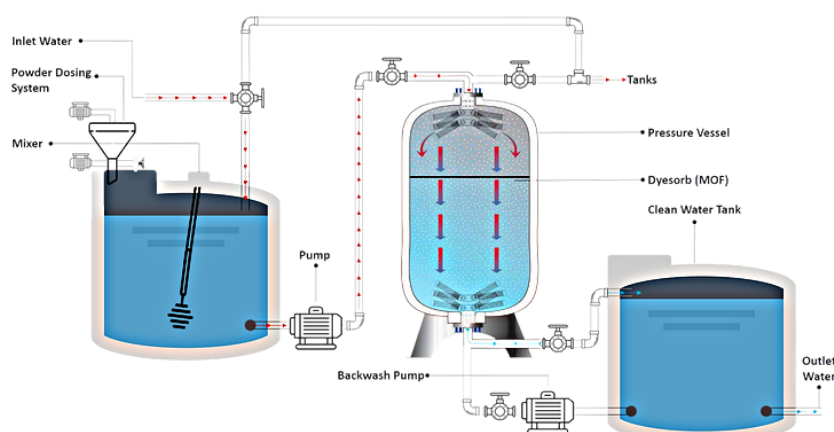
PROPERTIES OF DYESORB®

Type	MOF's Adsorber
Physical form	Solid Granules
Color	Black
Mesh Size(US)	8x30
Particle Size	0.5 – 2.0 mm
Bulk Density	ca. 620- 680 kg/m3

PROPERTIES OF DYEOXY®

Type	Advanced Oxidation
Physical Form	Crystalline (Triclinic)
Color	White Crystalline
Bulk Density	ca. 980 – 1020 kg/m3
Odor	None
Dosing	Min 10 g/m3 Max 50 g/m3

Process & System



However, the use of higher dosing also provides high removal efficiencies.

- Minimum dosing = 10 gram/m3 of wastewater
- Maximum dosing = 50 gram/m3 of wastewater
- Storage Tank flowrate x 3 times

Example: 10 m3/hour system needs 30 m3 of the storage tank as shown in Figure

DYESORB® SPECIFICATIONS

Carbon Content		Min 34%
FEOOH Content		Min 66%
Moisture Content		Max: 5 – 10%
Adsorption Capacity		80 g/L (by volume)
Specific Surface Area		3000 m2/g

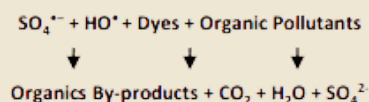
PACKAGING

- 60 L Drum (42 Kg/drum) - 18 drums on a pallet
- Other packing considered on request*

DyeOxy® and DyeSorb® is a two-step process for the removal of all types of dyes including many other pollutants from water or wastewater.

In **DyeOxy®** mechanism, the oxidant free species generates Sulfate and Hydroxyl radicals.

- Attack the pollutants (Dyes)
- Complete Degradation



DYESORB® OPERATING PARAMETERS

Flow Direction	Down Flow
Freeboard	40%
pH	5-9
Minimal Bed Depth	US 31.5 inch SI 80 cm
Optimal Bed Depth	US 47 inch SI 120 cm
Service Velocity	US 6 – 12 gpm/ft2 SI 15 – 30 m/h
Backwash Velocity	US 10 – 12 gpm/ft2 SI 25 – 30 m/h
Multiple Regeneration	Yes*

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