

# ACO®

**活性催化氧化剂  
有效作用与有机污染物**

**Active Catalytic  
Oxidation of Organic  
Pollutants**

ACO®有两种规格可供选择：5L/桶  
或20L/桶。有两种ACO®可供选择：

1. 生态型ACO®, 鱼类系统用
2. ACO®, 投氯系统用

ACO® is available in 5 and 20 litre drums,  
in 2 versions:

- ACO® bio, for fish systems
- ACO® for chlorinated systems



## ACO®是什么？

ACO®是一种活性催化氧化剂，通过利用自然光中的紫外线，催化形成自由基，增强水中的氧化还原电位。

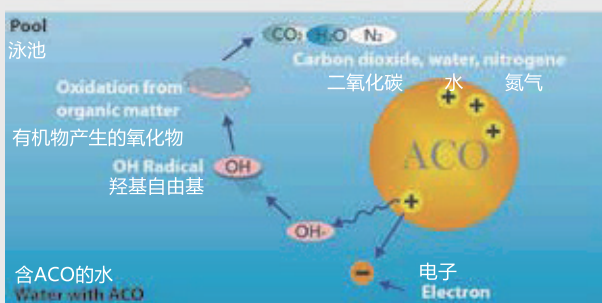
自由基是一种臭氧中的有效成分。跟氯的作用相似，自由基通过氧化作用清除污染物质。但自由基不会产生有毒副产物。ACO®在作用过程中不会被消耗，并起到增强自然反应的作用。

在氯消毒系统中，ACO®还能保护氯不受自然光的分解。使用了ACO®的户外泳池中，氯的持久度能够延长3倍。ACO®和氰尿酸的作用相同，但氰尿酸会降低氧化能力，ACO®能够增强水的氧化能力。

ACO® is an Active Catalytic Oxidiser that works by harnessing the natural energy of UV light from the sun to catalyse the formation of free radicals to increase the RedOx potential in the water.

Free radicals are the active ingredients of ozone. They oxidise just like chlorine to remove pollutants but do not form noxious disinfection by-products. ACO® is not consumed in the process, it just makes what happens naturally much more efficient.

In chlorinated systems ACO® also protects chlorine from photolysis by sunlight and makes it last three times longer in outdoor facilities. ACO® does the same as cyanuric acid, but instead of reducing oxidation capacity, ACO® increases the oxidation potential of the water.



阳光照射越强烈，水质越干净！  
The more the sun shines, the cleaner the water!

ACO® → 鳍足类动物的眼部不受刺激 →  
鲸类动物的肺部不受刺激 → 海象的皮肤不受刺激  
ACO® → no pinniped eye irritation → no cetacean  
pulmonary irritation → no walrus skin irritation.



## ACO®的效益，一目了然 Your advantages at a glance

- 不会伤害鱼类的水处理 -- 所有户外的生态系统中，都使用生态型ACO®。
- 水质更干净 -- 自然紫外线对泳池中有机物进行氧化，减少过滤设备的负荷。
- 更健康的水 -- 在氯消毒系统中，自由基氧化作用减少有毒副产物的产生，如三氯胺，氯仿，氰化氯等。
- 高效 -- ACO®能够延长氯和过氧化物的半衰期至300%以上，因而能够节省化学药品的用量。
- Fish-Friendly Water Treatment – with ACO® bio for all outdoor biological systems.
- Clearer water – Catalysis of natural UV oxidation of organics in the pool reduces the load on all other filtration equipment.
- Healthier water - In chlorinated systems oxidation by free radicals reduces production of toxic disinfection by-products such as trichloramine, chloroform and cyanogen chloride.
- High efficiency - ACO® extends the half-life of chlorine and peroxide by over 300 %, giving you substantial chemical savings



ACO® -- 完美适用于户外的动物观赏池  
ACO® → no problem is too large :-  
Perfect for all outdoor Aquatic Zoo animal exhibits!

## 利用太阳的能量来氧化有机物，不产生任何有毒副产物。

Use energy from the sun to oxidise organics with no noxious by-products.

### ACO®是如何起作用的？

太阳光中能量密集的短波紫外线转化为长波，释放大量的能量，能分裂水分子产生自由基(羟基自由基和氧自由基)。它们比臭氧更为强大，可以氧化尿素和有机氯等有机污染物，使其变成二氧化碳(CO<sub>2</sub>)、水(H<sub>2</sub>O)和氮气(N<sub>2</sub>)。因此，没有有害的消毒副产物，只是清洁安全的水，在氯消毒系统中，也没有三氯胺的形成。

### How does ACO® work?

Short-wavelength, energy-intensive ultra-violet rays from the sun are converted by ACO® into longer wavelengths. When this energy is released it splits water molecules producing free radicals (hydroxyl radicals and oxygen radicals). These are even more powerful than ozone and can oxidise organic pollutants such as urea and organochloramines completely back to carbon dioxide (CO<sub>2</sub>), water (H<sub>2</sub>O) and nitrogen (N<sub>2</sub>) so, no harmful disinfection by-products, just clean safe water and no trichloramines in chlorinated systems.

### 鱼类系统

在生物过滤的鱼类和哺乳动物系统中，生态型®ACO能够起到与臭氧相似的作用。ACO®自然的氧化能力类似于在海浪，急流或山脉中的氧化作用同理，这对于动物而言是相当安全的。ACO®在户外的展示池中也同样适用，如鱼池和户外水族箱等。

### Fish Systems

In biofiltered fish and mammal systems ACO®bio offers similar benefits to ozone use. The natural oxidation capacity generated is similar to that found in surf, rapids or mountain streams and is therefore very safe for the animals. It is equally well suited to external zoo exhibits as to fish ponds and outdoor aquariums.

### 氯消毒系统

短波紫外线转成长波紫外线，氯因而得到保护。

当ACO®投入水中时，阳光中的紫外线使用氯量减少，减少三氯胺和有毒副产物如氯仿和氯化氰的形成。与结合氯相比，氯仿和氯化氰的有害程度高数百倍。

ACO®是一种阳离子絮凝剂。与APF配合使用，你能够得到双重的絮凝作用，带正电或负电的粒子都能得到有效清除。

更少有机物 → 更低氯用量 → 更少投氯量 → 更少的消毒副产物 (DBP's)。

### Chlorinated Systems

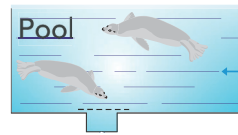
Chlorine is protected by conversion of the shortwavelength UV light to a longer wavelength.

When ACO® is dosed into the water UV from sunlight helps to reduce chlorine demand and reduces the formation of trichloramine and harmful by-products such as chloroform and cyanogen chloride that are hundreds of times more harmful than combined chlorine.

ACO® is a cationic flocculant, and in combination with APF®, you get a double stage flocculation of both positively and negatively charged particles for even better organics removal.

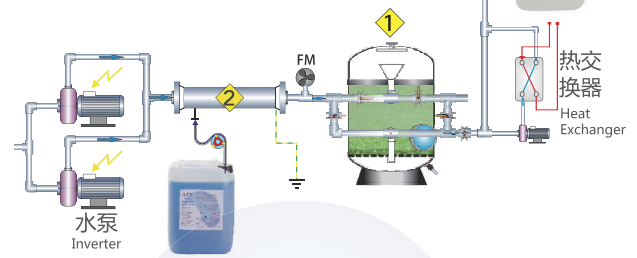
Less organics → lower chlorine demand → less chlorine consumption → less Disinfection By- Products (DBP's):

## 如何使用ACO®? How to use ACO®?



ACO®在生物过滤池或氯消毒池中均可使用，只需投入过滤罐后的管道中。

ACO® dosage in either biofiltered or chlorinated systems should be into pipework after the filters.



1. AFM®过滤
2. APF®和ZPM的凝结和絮凝作用
3. ACO®催化氧化

1. Filtration with AFM®
2. Coagulation and flocculation with APF® and ZPM
3. Catalytic oxidation with ACO®

### 投加量

在动物系统中，ACO®最好是在AFM过滤后，通过计量泵持续添加。投加量根据系统的负荷量确定，范围在0.5 - 1.0ml每立方米过滤量之间。

我们建议在第一个月使用时加倍用量。通过双倍的用量，ACO®能够在6-8周左右展示出明显的效果。

In animal systems ACO® is best dosed continually using a peristaltic pump (Dryden Aqua flocculation pump) after the AFM® filter; the dosage rate, depending on load, is 0.5 - 1.0 ml per m<sup>3</sup> of filtered turnover.

We recommend that dosage be doubled during the first month of treatment. Using this amount, ACO® will take from six to eight weeks before the full effects are apparent.





# 利用太阳的能量!

# 英瑞

DRYDEN AQUA



## 更健康的畅游环境

结合氯通常减少50%

## 更清澈的水质

浊度通常减少50%

## 减少化学品消耗

氧化需求降低高达40%

## 盐电解

更长的电极板使用寿命

[www.drydenaqua.com.cn](http://www.drydenaqua.com.cn)

# ACO<sup>®</sup> Active Catalytic Oxidation

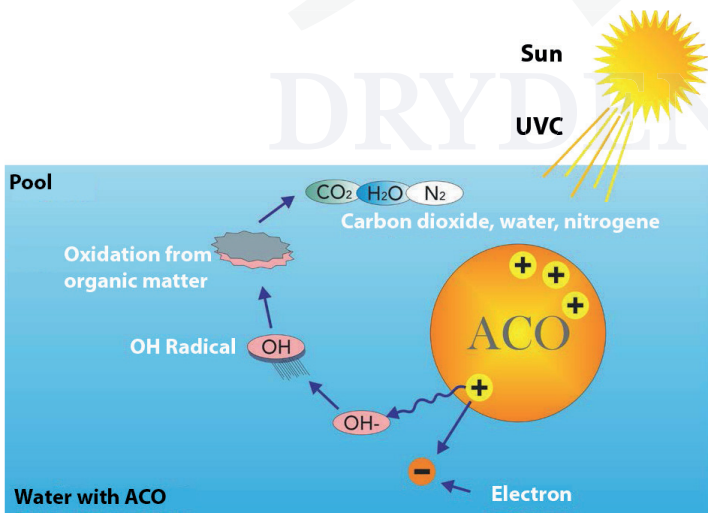


## 高效自然消毒

**1** ACO<sup>®</sup>可以增强太阳的自然消毒能力。ACO<sup>®</sup>产生的自由基能氧化尿素和氯胺等污染物并且不会形成任何有毒害的消毒副产物。使用后氯胺浓度可降低约50%，为您提供更洁净，更安全的水质。浊度水平也将降低40%以带来更清澈的水。

## 最佳氯稳定剂

**2** ACO<sup>®</sup>“过滤”UV紫外线以保护起消毒作用的氯分子免受光解（太阳光可分解氯分子）。投放后氯的半衰期延长了300%以上。与传统氯稳定剂（如氰尿酸）不同的是，ACO<sup>®</sup>不会降低氧化能力。ACO<sup>®</sup>可保护氯并同时增强太阳的消毒能力。



## 创新 & 生态友好

兼容所有类型的水处理手段。不含任何杀菌剂成分。



## 通过测试与认证

通过NSF 50泳池水卫生安全认证。不会形成任何有害的消毒副产物。



## 每周投放剂量为1L/100m<sup>3</sup>

首次投加的剂量为普通剂量的两倍。使用前需摇匀后方能倒入游泳池中。我们提供5L和20L的罐装规格。