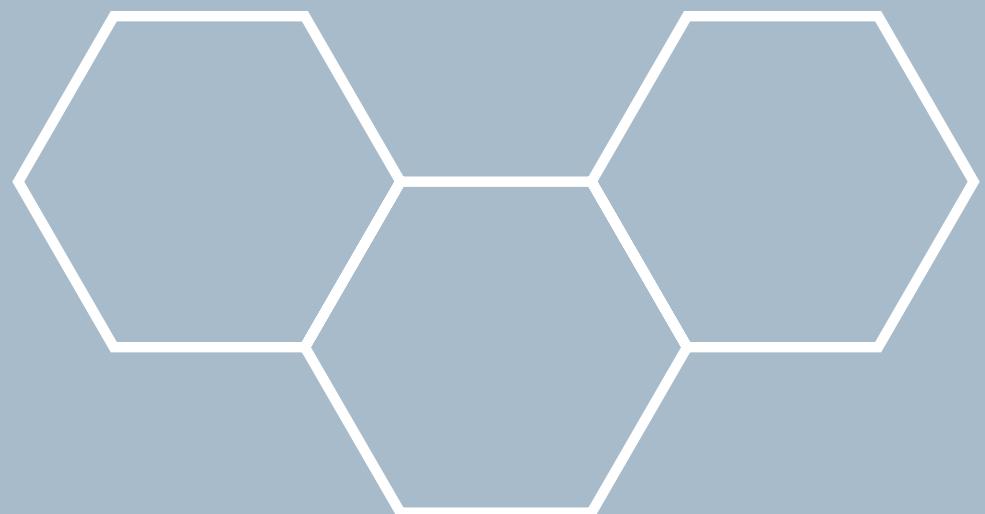
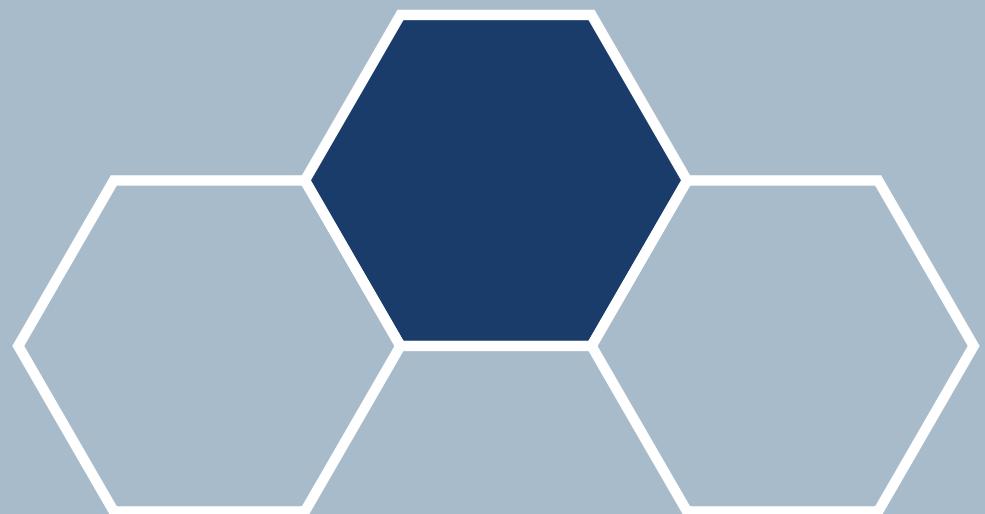


ECO-INNOVATIVE

Specific Coagulants For Wastewater Treatment





Sectors

From the industrial customer to the local, from the small and medium-scale enterprise to a multinational, in the national and international market, we are able to provide customized solutions for each customer. Our main clients come from the following sectors:

Public sector:

Treatment plants of urban waste water and treatment plants of water



Industrial Sector:

Automotive, metallurgy, paints, glass, ceramics, frits and glazes, sanitary, chemical, petrochemistry, pharmaceutical, food industries (livestock, processing of meat products, fish farms, preserves, mills, coffee products, ice cream, washing and processing of vegetables and fruits, frozen products,...) textile, energy (power plants, biodiesel producers, solar and thermal power plants, ...), paper and paperboard, mining, natural stones, plastic recycling and waste management.



Servyeco



ECOFLUOR Series - Fluoride Removal



ECOFLUOR Series is a new and innovative range of products developed by SERVYECO, based on coagulation aid liquid products, focused on eliminating fluorides from wastewater during chemical treatments, mainly in settling processes. High values of fluoride content in the wastewaters can not be removed with conventional inorganic coagulants like ferric chloride or polyaluminum chloride.

PRODUCTS	ECOFLUOR A50	ECOFLUOR A70	ECOFLUOR B50	ECOFLUOR B70
ASPECT	Yellowish Liquid	Yellowish Liquid	Amber Liquid	Amber Liquid
pH (0,3%)	1,5 - 1,7	1,5 - 1,7	12,0 - 12,2	12,0 - 12,2
ACTIVE CONTENT (%)	> 45	> 65	> 70	> 90
IONIC CHARACTER	Acid	Acid	Alkaline	Alkaline

ECOFLUOR Series products remove fluorides present in wastewater, reaching levels of fluoride removal rate greater than 95%, producing a very compact sludge treatable by settling and subsequent filtration. These products are widely used in the Glass and Metal-Mechanic sector, including Automotive (phosphating processes), Minery (copper extraction) and Lacquered Metal Surfaces (Aluminum).

AUTOMOTIVE SECTOR – ECOFLUOR SERIES

TEST	[F]initial (ppm)	ECOMIX RE 5	ECOFLUOR A 70	ECOPOL AS100	[F]final (ppm)	% Removal
1	10	300 ppm	600 ppm	5 ppm	4.7	53,0 %
	25				10.1	59,6 %
	50				14.7	70,6 %
	75				22.0	70,7 %
	100				33.0	67,0 %
2	50	400 ppm	600 ppm	5 ppm	12.8	74,4 %
	75				18.9	74,8 %
	100				24.0	76,0 %
3	50	300 ppm	800 ppm	5 ppm	12.4	75,2 %
	75				16.5	78,0 %
	100				23.0	77,0 %
4	50	400 ppm	800 ppm	5 ppm	13.2	73,6 %
	75				17.4	76,8 %
	100				19.1	80,9 %
5	50	600 ppm	1200 ppm	5 ppm	11.8	76,4 %
	75				12.6	83,2 %
	100				16.9	83,1 %

ADIMET Series - Metals Removal

ADIMET Series products have been designed to act as high efficiency metals precipitating agents, interacting with copper, nickel, zinc, chromium, cadmium, silver, lead, iron or mercury, among others. The ADIMET products are applied when lime based conventional treatments, as the chemical oxidation and formation of metal hydroxides, are not able to remove the metals present in the wastewater.

PRODUCTS	ADIMET TL	ADIMET LN	ADIMET M22	ADIMET SR
ASPECT	Bright green liquid	Bright yellow liquid	Reddish brown liquid	Clear green liquid
pH (0,3%)	9,5 - 10,5	10,0 - 11,0	10,0 - 11,5	12,0 - 13,0
ACTIVE CONTENT (%)	> 40	> 20	> 25	> 15
PREFERRED METALS	Nickel	Zinc	Nickel, Zinc	Nickel

ADIMET Series generates significant cost benefits associated with the doses and chemicals used. ADIMET products form an insoluble precipitate with multivalent metals, both complexed and chelated, reaching very high removal efficiency levels. These products are widely used in the metallurgic sector, including Automotive (cataphoretic processes), Minery, Textile, Electrolytic Zinc Plated and Galvanized Metal Surfaces, among others.

Oxidation:
Sodium hypochlorite

Flocculation:
pH = 10,5 with Ca(OH)₂
Polyelectrolyte

Treatment: Physical - Chemical, Settling.

PARAMETER	Units	Inlet	0	1	2	3
Zinc	mg/l	420	145	1,2	0,4	0,6
Removal Rate (%)	-	-	65,5	99,7	99,9	99,8
Nickel	mg/l	16,7	14,2	3,1	0,9	0,8
Removal Rate (%)	-	-	15,0	81,4	94,6	95,2

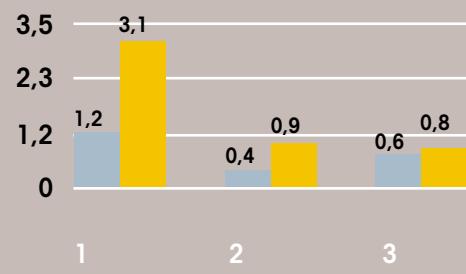
- 0.- Only flocculation phase.
- 1.- Customer's Treatment.
- 2.- 100 ppm ADIMET TL + 3000 ppm ADIMET LN.
- 3.- 3000 ppm ADIMET M22.

Study Cases - METAL MECANIC

A very **aggressive treatment** is required to reach requested values of Nickel and Zinc, **simultaneously**.

ADIMET Treatment, single or double, **decreases both concentration of Nickel and Zinc** below the requested limit (1 ppm).

 Nickel  Zinc



ECOPHOS Series - Phosphorus Removal

ECOPHOS Series products have been developed to increase the phosphorus removal efficiency in secondary systems after a biological treatments. Organic specific coagulants designed by SERVYECO are able to improve current treatments based on inorganic coagulants, like ferric chloride.

PRODUCTS	ECOPHOS AN	ECOPHOS CL	ECOPHOS SC
ASPECT	Brown liquid	Colourless liquid	Amber liquid
pH (20%)	2,0 – 2,8	4,0 – 6,0	11,0 – 12,0
ACTIVE CONTENT (%)	> 25	> 45	> 40
Density (g/cm3)	1,06 - 1,12	1,10 - 1,15	1,45 - 1,55

ECOPHOS Series avoid the use of corrosive materials, generating a dewatered sludge free of metals, even reaching significant cost benefits associated with the chemical doses and waste management. These products are always used in secondary systems after a biological treatment, coming from industrial and urban wastewaters. Industrial wastewater examples are Dairy, Tannery, Textile or Beverage, among others.

ECOSULPHATE Series products aim to precipitate dissolved sulphates through physico-chemical treatments, based on inorganic complexes formation, through an efficient and profitable procedure. Chemical technology developed by SERVYECO reduces the generated sludge and increase the removal efficiency reached by lime based current techniques.

ECOSULPHATE products are widely used in different industrial sectors like Paper, Cardboard, Minery, Textile, Natural Stone or Galvanized Metal Surfaces, among others.





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