

# Technical brochure and Cost of treatment

## "rb bertomeu" beco F-Plus Concentrated

Since 1996

Since 2018 Concentrated Additive

Complete treatment for all kind of fuel with <60 ppm Vanadium. For diesel engines of all sizes. For boilers, furnaces, dryers and gas turbines.

**Dispersant** of MCR-Conradson Micro Residues, **demulsifier**, **stabilizer**, **detergent**, algae and fungi **remover**, and Vanadium and Sodium **corrosion inhibitor** additive. **Lubricant for Low Sulphur Diesel (LSD) injectors**. It **optimizes** the combustion, **reduces** the fuel consumption and **saves** maintenance costs.

### EFFECTS

**Dispersant** of carbons and asphaltenes which [reduces sludge](#) by **55%** and the trigger rate at the water treatment plants. **It keeps the filters clean**. **Desemulsifier**, it decants the water and [removes](#) algae and fungi. **Stabilizer** that delays the fuel degradation. **Detergent**, it keeps injectors clean, **improves combustion** and [reduces the emission of unburned particles](#) by **80%**. Soluble **Magnesium molecules** which [inhibit corrosion](#). Improves lubricity for injection in Low Sulphur Diesel. **Excellent results** in the lubricity tests for Injection in Low Sulphur Diesel in accordance with ASTM D-6079 (HFRR) / ISO 12156.

The sum of all the effects provides a **3%** [fuel saving](#) and, as a result, the CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub> emissions are also reduced at the same rate of **3%**.

### COMPOSITION

- a) > **20%** [Soluble Magnesium carboxylate / Magnesium Organic salts of Fatty acids \(molecules-trade secret\) soluble in hydrocarbons](#). [see point a-1]
- b) > **50%** **Dispersants**, surfactants, stabilizers, detergents, corrosion inhibitors, demulsifiers, and biocides. [see points b-1 to b-7]
- c) < **30%** Organic **solvents**. [see point c-1]
- d) Density: 0.900 Kg/L

**a-1) Soluble Magnesium carboxylate / Magnesium Organic salts of Fatty acids (molecules-trade secret) soluble in hydrocarbons.**

**Active surface / Surface area of 1 gram of Magnesium molecules: ≈ 1,800 m<sup>2</sup>/g**

**b-1) Dispersants**, which cause the uniform separation of particles of asphalts, coals and other solids which the fuel oil contains, minimizing sludge formation.

**b-2) Surfactants**, which reduce the surface tension of the fuel and achieve better pulverization.

**b-3) Demulsifiers**, which accelerate the speed of separation of the water, to the bottom of the storage tank, for ease of removal.

**b-4) Biocides**, which help maintaining the integrity of fuels, preventing the bacterial and fungal contamination in the storage tanks.

**b-5) Stabilizers**, which detain the ageing and normal degradation of the fuel, and avoid the increase in sediments by increasing the size of the small particles in suspension.

**b-6) Detergents**, which reduce the formation of coal deposits and flow loss in the injectors, and maintain an excellent pulverization.

**b-7) Corrosion inhibitors**, which protect the metal parts of the fuel circuits.

**c-1) Organic solvents** with flash point > 65 °C. (C.C.)

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### DOSAGE TABLES

**For Low-Sulphur Diesel: <50 ppm ~ 0,005% m/m**

Recommended dose (in volume): 0,0060% = 0,060 liters ~ 60 ml / 1000 liters of fuel

**For Marine Diesel Oil DMA, Gas Oil C: sulphur < 1000 ppm ~ 0,1% m/m**

Recommended dose (in volume): 0,0074% = 0,074 liters ~ 74 ml / 1000 liters of fuel

Dosage for Heavy fuel oil and Crude oil according to Micro Conradson Residue (MCR) and Vanadium contents in the fuel								
MCR %	< 12%	12%-14%	14%16%	17%	18%	19%	20%	21%
Vanadium ppm	10	15	20	26	30	40	47	55
Kg / MT of fuel	0.15	0.21	0.29	0.37	0.46	0.56	0.67	0.79
Additive:fuel ratio	1:6666	1:4762	1:3448	1:2703	1:2174	1:1786	1:1493	1:1266

For higher Vanadium content, complement with the ["rb bertomeu" beco Mg Concentrated](#) additive.

### **COST OF TREATMENT ACCORDING TO THE FUEL AND THE SUPPLIED QUANTITY OF ADDITIVE**

<b>Cost of treatment for low-sulphur Diesel</b> (Suggested dose 0.060 L / 1000 L of fuel)				
beco F-Plus Concentrated additive. 1 liter	23 €/L	19 €/L	9.93 €/L	9.43 €/L
Package	5 L	25 L	4 drums x 200 L	IBC x 1000 L
Cost of treatment for 1000 L of fuel	1.38 €/1000 L	1.14 €/1000 L	0.60 €/1000 L	0.57 €/1000 L

<b>Cost of treatment for marine Diesel DMA, Gas oil C</b> (Suggested dose 0.074 L / 1000 L of fuel)				
beco F-Plus Concentrated additive. 1 liter	23 €/L	19 €/L	9.93 €/L	9.43 €/L
Package	5 L	25 L	4 drums x 200 L	IBC x 1000 L
Cost of treatment for 1000 L of fuel	1.7020 €/1000 L	1.4060 €/1000 L	0.7348 €/1000 L	0.6978 €/1000 L

<b>Cost of treatment for Fuel oil or Crude oil with MCR &lt; 12%</b> (Suggested dose 0.15 Kg / MT of fuel)				
beco F-Plus Concentrated additive. 1Kg	25.68 €/Kg	21.11 €/Kg	11.03 €/Kg	10.48 €/Kg
Package	5 L	25 L	4 drums x 200 L	IBC x 1000 L
Cost of treatment for 1 MT of fuel	3.8520 €/MT	3.1665 €/MT	1.6545 €/MT	1.5720 €/MT

Prices and conditions:

- Tax base
- Freight paid to destination in mainland Spain and the Balearic Islands
- Export: Incoterms 2020 FCA Air and Sea FOB, from Barcelona
- Export: **Express shipment by air 1-2 weeks to any worldwide destination**
- Prices valid until December 30, 2020
- NC-TARIC code: 3811 90 00

If you have any technical or commercial question, please fill-in and send this [form](#).

**DOSAGE / ADDITION POINT:** The injection must take place in the inlet pipe to the storage tank.

**PRESENTATION:** 1000-liters HD-PE IBC, 220-liters metal drums, 25-liters and 5-liters HD-PE Jerrycans.

**ENVIRONMENT AND TRANSPORTATION:** Liquid product hazardous for the environment. Cataloged for transportation ADR/RID, ADN, IMDG and IATA: **Class 9, P.G. III, UN 3082**

**MANUFACTURER AND COUNTRY OF ORIGIN:** Manufactured by "rb bertomeu" in Spain (European Union).

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