

Metal Spray LF[®]

LOW FOAM PARTS SPRAY

PRODUCT DESCRIPTION:

Metal Spray LF is a solvent free, near neutral pH, low foaming compound designed for high pressure, high temperature spray washing systems. Metal Spray LF is amber (light gold) in color . . . is water thin . . . and has a pleasant, mild, non-irritating fragrance with no solvent or caustic "bite".

USE IN CABINET, TUMBLE, DRUM AND IN-LINE CONVEYOR TYPE SYSTEMS:

State-of-the-art surfactant technology is incorporated in the Metal Spray LF formula to eliminate any foaming problems. In fact, Metal Spray LF's unique surfactant system actually defoams at elevated temperatures. Metal Spray LF will not harm equipment or equipment parts . . . will not clog washing systems or cause "down time".

FAST ACTING:

Formulated with new unique, nonionic surfactants just released for commercial use, Metal Spray LF provides safe wetting, rapid penetration and quick removal of the toughest grease, grime and soils.

HIGH CAUSTIC CLEANER PERFORMANCE WITHOUT THE HAZARDS:

Due to the hazards of high caustic cleaners, chlorinated solvents, solvents in general and high alkaline compounds, IPG/Spartan developed Metal Spray LF to be a cost effective alternative for high caustic (high pH) liquid and/or powdered spray type cleaners.

Chlorinated and non-chlorinated solvents such as 1,1,1-Trichloroethane, Trichlorethylene, Perchlorethylene, kerosene and high caustics have been used in industry for decades when the task involved heavy industrial cleaning due to the fact that these types of products offer outstanding cleaning performance, fast dry time and economical cost. However, due to potential health hazards, negative environmental impact, today's high disposal costs of hazardous materials, as well as regulations like SARA Title III, industry is seeking alternatives that offer a combination of exceptional cleaning performance and rust preventative features as well as being safe for individuals and the environment. In other words, industry has been seeking suitable alternatives for Trichlor, Perchlor, Methylene chloride, high caustic powders, etc., but the substitutes offered previously either did not perform, exchanged one hazard for another or were too high in price. As an example, industrial accounts sometimes use 5% solutions of caustic soda or similar high caustic solutions in their high pressure, high temperature spray equipment. These solutions provide extremely aggressive cleaning performance but present hazards to employees and are not user and environmentally friendly.

IPG/Spartan chemists have incorporated new nonionic and other types of surfactant technology into the Metal Spray LF formula. This creative chemistry provides in Metal Spray LF a product with the features, advantages and benefits of high caustic products . . . without the negative effects to people and the environment.

MULTI METAL CORROSION PROTECTION:

The Metal Spray LF formula includes multiple rust and corrosion inhibitors to prevent rust and corrosion on aluminum, steel, cast iron, stainless steel, brass, copper, Hastelloy, Inconel, Titanium, Tantalum, Magnesium, at concentrations ranging from 2:l (43 oz./gal.) through 30:l (4 oz./gal.). Metal Spray LF is safe on plastic, glass, ceramic, synthetic rubber, typical o-rings and seals made of Viton, Buna-N, Neoprene, Teflon, polyethylene, polypropylene and most other normally used seals, o-rings and tubing.

ENVIRONMENTALLY SAFE & USER FRIENDLY:

Safe for the environment, Metal Spray LF is biodegradable and phosphate free. Metal Spray LF greatly reduces hazards to employees in the industrial work place. Non-flammable. Non-corrosive. No VOCs. No solvents, phenols, phosphates, nitrites, nitrates, PCB's, butyl or other substances known to be toxic or highly hazardous to individuals or the environment.

SAVES MONEY!

Metal Spray LF reduces costs associated with chlorinated and highly alkaline pH compounds in three ways:

- 1) Biodegradable and sanitary sewer safe in most areas. Once contaminants such as oils, greases, trace metals, etc., are removed, Metal Spray LF can be disposed of in most sanitary sewer systems in the United States. There are no known objectionable components in Metal Spray LF that OSHA and/or the EPA has determined to be hazardous. It is always best, of course, to check with the Federal, State and local sanitary sewer departments in the area. No need to haulaway spent Metal Spray LF once contaminants are removed.
- 2) In certain areas, extra surcharges are added to haulaway costs of chlorinated solvents. There are no haulaway costs with Metal Spray LF once contaminants are removed. Metal Spray LF will greatly reduce trade waste disposal costs at any facility.
- 3) Does not contain any compounds reportable by SARA Title III, Section 313. SARA Title III (Superfund Amendments and Reauthorization Act III), part of the Emergency and Community Right-to-Know Act, requires that amounts of chemicals considered toxic or hazardous, or compounds containing materials considered to be hazardous, must be reported to the EPA. This reporting requirement costs industry millions of dollars each year. Metal Spray LF does not contain any element that must be inventoried and reported.

EXCELLENT FILTERABILITY:

A solution of Metal Spray LF can be easily filtered by settling, cyclonic, or any positive type media filtration equipment. By filtering a solution of Metal Spray LF, you can remove any solid debris, metal chips and fines, etc., from the solution, extending the life of the Metal Spray LF tremendously. This greatly reduces the number of times a cleaning solution needs to be changed in a washing operation, thus greatly reducing any haul away costs incurred by the facility.

GREATLY REDUCES HAZARDOUS WASTE:

Metal Spray LF can be recycled and reused. Metal Spray LF rejects oils, grease and other non-water soluble soils after it sets undisturbed for 6 to 24 hours. Oils and greases can be skimmed off the top to keep the washing solution clean and contaminant free. Spent Metal Spray LF can be disposed of in most sanitary sewer drains. Check with Federal, State and local authorities prior to disposal.

DIRECTIONS FOR USE:

1. Dilute with water. See chart for recommended concentration.
2. If corrosion protection is desirable, do not rinse. Unrinsed metal provides an extremely light rust-preventing layer suitable for indoor storage. If residue-free parts are required, rinse completely with water and dry thoroughly with heat or forced air.

The following recommendations are based on Spartan laboratory studies, independent laboratory studies and major airlines facilities' evaluation.

Type of Cleaning	Type of Metal	Temperature (Fahrenheit)	Soil Condition	Dilution Ratio	
				(Parts water to parts cleaner)	Oz./Gal.
Pressure Spray Cold*	All Metals	60°-100°	Med. & Heavy	10:1	12
Pressure Spray Hot	All Metals	100°-140°	Med. & Heavy	15:1	8
		140°+	Med. & Heavy	15:1	8

* When temperatures are below 100°F, Metal Spray LF may foam slightly. To eliminate foam, raise water temperature to 100°F or greater.

EASY CONCENTRATION CONTROL USING THE AO MODEL 10440 REFRACTOMETER

Check the concentration of Metal Spray LF in water by using the following refractive index vs. concentration chart.

<u>Refractive Index</u>	<u>Dilution Ratio</u>
6.4	2:1
3.3	5:1
1.8	10:1
1.5	15:1
0.9	20:1
0.7	25:1
0.6	30:1

TECHNICAL DATA:

Total Active Ingredients -- 18.0

Specific Gravity -- 1.0304 @ 24°C/75°F

Density -- 8.57 lbs./gal. @ 24°C/75°F

Viscosity -- Water thin

pH (Concentrate) -- 9.0

Cloud Point -- 130°F

Flash Point -- None

Solvents (Aromatic and Aliphatic) -- None

Stability --

- Shelf @ 24°C/75°F -- One year minimum
- Accelerated @ 49°C/120°F -- 60 days minimum
- Freeze/Thaw Cycle -- Will withstand a minimum of three freeze/thaw cycles.

Miscibility -- Mixes well with hot or cold water.

Rinsability -- Rinses freely with hot or cold water.

Biodegradable

Phosphate free

PACKAGING:

Metal Spray LF is available in 330-gallon reusable totes; 275-gallon, DOT-approved totes; recyclable HDPE (High Density Polyethylene) 55-gallon drums and 5-gallon pails. Label copy is available in English and Spanish. Secondary labels are also available.

GUARANTEE:

Spartan's modern manufacturing and laboratory control insure uniform quality. If dissatisfied with performance of product, any unused portion may be returned for credit within one year of the date of manufacture.