



Rinsing and Carrier Fluid Applications

Introduction

Samsol PF Solvent is a patented blend of Hydrofluorocarbons. It has “zero” ozone depletion potential, and low global warming potential, making it an ideal replacement for perfluorocarbons (PFCs) in many applications.

This product bulletin summarizes product property, application and use, safety, health, environmental, and regulatory information. Users should also consult the Material Safety Data Sheet (MSDS) for additional information.

Physical properties of Samsol PF are shown in **Tables 1**

Applications

Samsol PF is intended for use as a carrier solvent for fluorocarbon lubricants, such as DuPont’s Krytox fluoro-lubricants. It provides a non-flammable, fast drying medium that quickly deposits uniform, thin layer of lubricant. In addition, Samsol PF can be used as a rinsing agent or a flushing solvent for Micro-particulate removal. It is suitable for use in boiling systems such as vapour degreaser systems, due to its excellent compositional stability. Since it has very mild solvency, it should be used in applications where material compatibility is an important factor.

A blend of two hydrofluorocarbons, Samsol PF has zero ozone depletion potential, low global warming potential, and is not photo chemically reactive.

Plastic and Elastomer Compatibility

Most plastics can be safely cleaned in Samsol PF. Acrylic, ABS, and polycarbonate parts, particularly if under stress, may show slight cracking or crazing damage and should be tested. EPDM, butyl rubber, Buna-S, and neoprene are recommended for Elastomeric parts.

Elastomer swelling and shrinking will, in most cases, revert to within a few percent of original size after air drying. Swell, shrinkage, and extractables are strongly affected by the compounding agents, plasticizers, and curing used in the manufacture of plastics and elastomers. Therefore, prior in-use testing is particularly important

Table 1 Physical Properties

Molecular Weight	197
Boiling Point, °C	45
Liquid Density, (g/cc) @25°C	1.44
Vapour Pressure, mm Hg	347
Surface Tension, dyne/cm	15.9
Freezing Point, °C	-21
Heat of Vaporization at Boiling Point, cal/g	36
Heat Capacity, cal /g° C	0.3
Viscosity, cPs	0.63
Flash Point, °C (°F) Closed Cup	None
Vapour Flammability in Air, vol %	Lower Limit 7 Upper Limit 8

Pensky Martens Closed Cup Tester (ASTM D 93)

Safety/Flammability

Samsol PF exhibits no closed cup or open cup flash point and is not classified as a flammable liquid by NFPA or DOT. However, the product does exhibit vapour flammability limits in air. Users should clear equipment of all vapours and liquids before performing any maintenance operations that could result in an ignition source.

Flash point data and limits of flammability in air provide the user with additional information that should be used as elements of a fire risk assessment and to determine guidelines for the safe handling of volatile chemicals. Users should assure compliance with all standards and local fire codes.

Metals and Other Compatibility

Samsol PF was found compatible with aluminium, copper, and iron.

Samsol PF is not compatible with strong bases; therefore, contact with highly basic process materials is not recommended.

Specifications

All components of Samsol PF are listed in the TSCA inventory

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Storage/Handling

Samsol PF is thermally stable and does not oxidize or degrade during storage. Store in a clean, dry area. Protect from freezing temperatures. Do not allow stored product to exceed 52°C to prevent leakage or potential rupture of container from pressure and expansion.

Consideration should be given to retrofit of existing, or purchase of new, vapour degreasing equipment to provide vapour containment technology that enables safe and economical use of Samsol PF. Although Samsol PF is not classified as a flammable liquid it does have flammable limits in air.

A drum pump is recommended to dispense the product from its container. If an electric drum pump is used, avoid operation near open equipment or when solvent vapours are present.

In these cases, consideration should be given to the use of a flammable-rated drum pump. If a large release of vapours occurs, such as from a large leak or spill, the vapours may concentrate near the floor or in subfloor areas and displace the oxygen available for breathing, causing suffocation. Evacuate everyone until the area has been well ventilated. Do not re-enter the affected areas without self-contained breathing apparatus unless the Samsol PF concentration is below the AEL. (200 ppm calculated)

Packaging and Availability

Samsol PF is available commercially in 16 Litre pails with a net weight (22.7 kg). Samples are available on request.

Recovery

Samsol PF is easily recoverable by off-line or inline distillation equipment such as a vapour degreaser or still. The presence of soil however, may alter the characteristics of the material during the recovery operation. Recovery should be closely monitored to ensure operating levels are maintained. Users should test the spent Samsol PF to ensure proper classification for waste disposal.

Plastic Compatibility

Immersion: 15 Minutes at Room Temperature

Polyethylene	Compatible	Acetal
Polypropylene		Epoxy
Polyester, PET, PBT		Liquid Crystal Polymer
Polyimide, PI, PEI, PAI		Phenolic
Polyetherketone, PEK		PTFE, ETFE
Polyaryletherketone, PEEK		Polyvinylchloride
Polyarylsulfone, PAS		Ionomer
Polyphenylene Sulfide, PPS		Chlorinated PVC
Polysulfone, PSO		Cellulosic
Polystyrene		ABS
Polyphenylene Oxide, PPO		

Incompatible

Acrylic

Environmental Policy

It is the aim of the Banner Chemicals Group to provide their customers the finest quality products and services whilst operating to the highest Health & Safety standards and minimizing the impact on the Environment. This is obtained through an Integrated Management System (IMS). This system meets and where possible exceeds, the requirements of International Standards, ISO 9001:2008 (Quality), ISO 14001:2004 (Environmental) and OHSAS 18001:2007 (Health & Safety) The company is committed to preventing pollution by ensuring that its products are developed, handled, transported, used and disposed of safely and in compliance with relevant Environmental & Health & Safety Legislation, the CBA's Responsible Care Programme, Product Stewardship and Industry Codes of Practice.

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