

---

**Typical chemical and physical properties**

Coolant SiF-20PF is a liquid corrosion inhibitor for Potassium Formate/Acetate or Potassium Formate Brines. It is free of amines and nitrites.

**Composition: aqueous solution of inhibiting salts.**

Appearance	liquid
Colour	pale yellow
Density (20 °C)	1.30 – 1.35 g/cm <sup>3</sup>
pH	10.5 – 11.5
Solubility in water	complete
Freezing point	< 0 °C
Storage stability	12 month

*This information is intended as a guideline only. For specifications please consult the Certificate of Analyses.*

---

**Applications and typical treat level recommended**

The corrosion limits in glassware set by ASTM D 3306 (except with SAE 3A alloy) are met using the blending instructions mentioned below.

---

**Blending instructions**

Preparation of an inhibited 50% w/w Potassium Formate (or Potassium Formate/Potassium Acetate blend) brine:

Pump 80 parts w/w of a 62.5% w/w solution of Potassium Formate (or Potassium Formate/Potassium Acetate blend) in distilled/deionised water in a mixer or tank (*Solution X*).

Stir gently (*Solution X*).

Stir 20 parts w/w of Inhibitor SiF-20PF into *Solution X* and homogenize (*Solution Y*)

Eventually dilute *Solution Y* to the desired concentration of Potassium Formate (or Potassium Formate/Potassium Acetate blend) with distilled/deionised water. Never exceed a min. concentration of Potassium Formate (or Potassium Formate/Potassium Acetate blend) equal to 25% w/w. Higher dilution rates would compromise the inhibiting action of Inhibitor SiF-20PF.

# ADDAPT<sup>®</sup> Coolant SiF-20PF

---

<b>Safety and Handling</b>	Please read Material Safety Data Sheet (MSDS) before handling.
<b>Product Specification</b>	This information is available on request through our local representative.
<b>Packaging</b>	This information is available on request through our local representative.

---

**Quality Policy**                      The objective of our quality policy is the continuous fulfillment of the internal and external requirements agreed upon with our partners with regards to everybody's performance.

The Quality System of ADDAPT<sup>®</sup> Chemicals BV is based on the principles of the NEN-EN-ISO-Standard 9001:2015.

---

**Liabilities**                              *All recommendations for the use of our products, whether given by us in writing, orally, or to be implied from the results of tests carried out by us, are based on the current state of our knowledge. Notwithstanding any such recommendations, buyer or user remains responsible for satisfying himself that the products as supplied by us are suitable for his intended process or purpose. Since we cannot control the application, use or processing of the products, we cannot accept responsibility thereof. Buyer has to ensure that the intended use of the products will not infringe any third party's intellectual property rights. We warrant that our products are free from defects in accordance with, and subject to, our general conditions of sale and supply.*

ADDAPT Chemicals BV  
Speltdijk 1  
NL-5704 RJ Helmond  
The Netherlands  
Tel: + 31 - 492 - 59 - 75 - 75  
Fax: + 31 - 492 - 55 - 29 - 55  
E-mail: [info@addapt-chem.com](mailto:info@addapt-chem.com)  
Home page: <http://www.addapt-chem.com>

Publication Number CO81237  
© ADDAPT Chemicals BV 2005  
Version 5: 2019

# ADDAPT<sup>®</sup> Coolant SiF-20PF

Typical characteristics of 50 % w/w Potassium Formate Solutions inhibited with Inhibitor SiF-20PF

CHARACTERISTICS	UNITS	VALUES	METHODS
Appearance	Visual	Liquid - Colourless	-
Odour	-	Absent	-
Freezing point	°C	-50 °C min.	ASTM D 1177
pH	-	10.0 – 12.0	ASTM D 1287
Specific weight (20 °C)	-	1.35 – 1.40	ASTM D 891/C
Miscibility with water	-	Complete	
Hard water stability	-	Unstable	BS 6580:1992

*Inhibitor SiF-20PF must be used in brines containing only distilled or deionised water. In case Inhibitor SiF-20PF is used in brines containing hard water, precipitates (mainly Magnesium and Calcium Salts) may occur.*

## ASTM D 1384 – Corrosion Test for Engine Coolant in Glassware

METALS	Potassium Formate* 50% w/w sol.  Weight loss – mg/specimen	Potassium Formate* 25% w/w sol.  Weight loss – mg/specimen	ASTM D 3306 LIMITS  Weight loss – mg/specimen
Copper	-1.0	-1.5	10 max.
Brass	-1.2	-1.6	10 max.
INOX Steel 18/10	-0.1	-0.3	***
Steel	-0.3	-0.6	10 max.
Cast Iron	-0.4	-0.7	10 max.
Cast Aluminium	-2.3	-2.5	30 max.

*\*In case blends of Potassium Formate/Potassium Acetate are used, similar results are expected.*

### NOTE:

Inhibitor SiF-20PF does not provide corrosion inhibition of Solder (SAE 3A) whose protection is prescribed by ASTM D 3306 for ethylene/propylene glycol based coolants. Inhibitor SiF-20PF does not provide protection of galvanised/zinc surfaces.

However, after eventual removal of galvanic/zinc films, the metal surfaces mentioned above are adequately protected against corrosion.