

ADDITIVES INC.

Quality Control

Each individual batch of heat transfer fluid add pak is rigorously tested for conformance with product and industry specifications prior to storage, packaging, or shipment. This laboratory analysis is thoroughly conducted by both Additives Inc. A Certificate of Analysis for each lot is produced and is available to customers.

Technical Support

Our laboratories will conduct a complete analysis of samples of our fluids from your systems quarterly. Simply send a one-pint sample to our laboratory and we will send you a written report including any recommendations on needed fluid maintenance actions. We will provide make-up inhibitor solutions as needed. We will also assist by testing samples to aid in problem solving efforts at any time.

CLS-AP

Closed Loop System Heat Transfer Add Pak, Glycol Based – Inhibitor Package

Product Description and Applications

The Closed Loop System Heat Transfer Fluid Add Pak (CLS-AP) is for use with ethylene, or propylene glycols, and may be used to make heat transfer fluids for these applications: HVAC systems, food processing heating and cooling units, process heat transfer systems, and many more.

CLS-AP contains only food grade ingredients. When it is used with the appropriate grade of propylene glycol which is generally regarded as safe (GRAS) by the FDA/USDA, the heat transfer fluid produced can be used in applications where there is a possibility of incidental contact with food or beverage products in a processing facility. CLS-AP mixes readily with glycols at temperatures as low as 40° F, and can be stored without crystallization, above 50° F.

The ingredients in CLS-AP inhibit corrosion of all metals commonly found in HVAC systems, and also are compatible with most plastic construction materials. Corrosion Inhibition is provided in several ways: 1) metals are passivated, or protected, by thin, non-fouling molecular coatings ionically bonded to the surface; 2) pH of the glycol-water solution is buffered by an acid-neutralizing ingredient which acts to maintain the desired level of alkalinity; 3) Dispersing-Suspending Agents help prevent scaling and fouling.

Propylene, or ethylene glycol containing CLS-AP may be formulated to any concentration, with water containing up to 300 ppm (total) hardness (salts of magnesium, calcium, etc.). Higher hardness levels may cause excessive inhibitor consumption, scale deposits, and metal pitting.

ASTM Results

Results of the ASTM D 1384 Glassware Corrosion Test for a propylene glycol and water solution, with and without CLS-AP are shown below:

Metal	50% Propylene Glycol – Water Solutions	
	with CLS-AP	without CLS-AP
Copper	1	5
Solder	2	350
Brass	3	10
Steel	1	250
Cast Iron	2	400
Aluminum	2	50

Use Instructions

2.2 gallons CLS-AP + 52.8 gallons industrial grade PG, or EG will produce 1 -55 gal. drum with a 96% concentration. * (281.6 ounces)
In bulk, use 4 gallons of CLS-AP per 96 gallons of glycol.

Technical Contact Information

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