

FREEZE-FIGHTER CONCENTRATE

-100°F (-73°C) BURST PROTECTION

FF-SPEC

PRODUCT DESCRIPTION

PRODUCT

FREEZE-FIGHTER Anti-Freeze Concentrate and Heat Transfer Fluid for HVAC, Potable Water, and Solar Systems.

TYPE

Nontoxic Propylene Glycol Anti-Freeze with special anti-corrosion inhibitors, color indicators, and burst protection to -100°F (-73°C).

RECOMMENDED USES

FREEZE-FIGHTER Anti-Freeze Concentrate is ideal for water based systems requiring maximum freeze and corrosion protection without the risk of environmental contamination.

FREEZE-FIGHTER Anti-Freeze Concentrate works excellent in:

- Closed Loop Solar Systems
- Hydronic HVAC Systems
- Potable Water Lines
- Sprinkler Systems
- Irrigation Lines
- Recreational Vehicles
- Pleasure Craft

FREEZE-FIGHTER Anti-Freeze Concentrate is a pure blend of Propylene Glycol and corrosion inhibitors that must be diluted with water for burst protection down to -100°F (-73°C). The dilution with water provides for an economical method for protecting the system from freezing or bursting. **FREEZE-FIGHTER** Anti-Freeze Concentrate can be diluted to offer higher freeze points and burst protection in warmer climates (see freeze and burst protection chart).

FREEZE-FIGHTER Anti-Freeze Concentrate lubricates pumps, valves and moving parts. **FREEZE-FIGHTER** Anti-Freeze Concentrate will not harm plastic or rubber seals, o-rings, or gaskets.

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RECOMMENDED USES CONTINUED

FREEZE-FIGHTER Anti-Freeze Concentrate is suitable for use with continuous operating systems with temperatures up to 250°F (107°C), and will not degrade significantly from short term exposures to temperatures up to 350°F (162°C).

COLOR/CONSISTENCY

Aqua Blue Liquid

ENVIRONMENTAL STATEMENT

FREEZE-FIGHTER Anti-Freeze Concentrate is nontoxic, nonflammable, and non corrosive. **FREEZE-FIGHTER** Anti-Freeze Concentrate eliminates the possibility of contaminating domestic and potable water systems. **FREEZE-FIGHTER** Anti-Freeze Concentrate will not support bacterial growth.

APPLICATION PRECAUTIONS

FREEZE-FIGHTER Anti-Freeze Concentrate has a greater tendency to leak past faulty joints than water, so all leaks must be properly corrected.

LIMITATIONS

FREEZE-FIGHTER Anti-Freeze Concentrate must be diluted to provide for proper freeze protection.

Do not use in systems containing galvanized pipe or aluminum. Do not use in conjunction with boiler treatment chemicals without first consulting the manufacturer.

PACKAGING

U.S. Measure:

Stock Code	Size
FF1	1 gal. (3.78 L)
FF5	5 gal. (18.9 L)
FF55	55 gal. (208 L)

WEIGHT PER U.S. GALLON

8.57 lbs. (3.9 kg) ± 0.2

SHIPPING WEIGHT PER CASE

Stock#	Case Weight	#/Case
FF1	54 lbs. (24.5 kg)	6/case
FF5	45 lbs. (20.4 kg)	1/case
FF55	515 lbs. (233.6 kg)	1/case

DIRECTIONS FOR USE

1. Empty the entire system through faucets, petcocks, and other openings. Then close all openings.

2. Replace all water in the system with a mixture of 60% **FREEZE-FIGHTER** Anti-Freeze Concentrate and 40% water to obtain -100°F (-73°C) burst protection. When using **FREEZE-FIGHTER** Anti-Freeze Concentrate to make less concentrated mixtures, use the Freeze and Burst Protection Chart to determine the correct dilution ratio to obtain the desired burst and freeze protection. Do not make mixtures less concentrated than shown on the table.

3. Be sure to protect all drains by adding **FREEZE-FIGHTER** Anti-Freeze Concentrate to traps and toilets to prevent freezing. Open each faucet to be sure **FREEZE-FIGHTER** Anti-Freeze Concentrate has displaced any water pockets. Close faucets when the aqua color of **FREEZE-FIGHTER** Anti-Freeze Concentrate appears.

4. For circulating hot water heating systems and solar heating and cooling systems, **FREEZE-FIGHTER** Anti-Freeze Concentrate can remain in the system all year. Be sure to flush the system thoroughly of dirt, scale or oil prior to adding **FREEZE-FIGHTER** Anti-Freeze Concentrate.

5. Test the entire system for freeze protection and acid corrosion protection with **FREEZE-FIGHTER** Test Strips. Additional **FREEZE-FIGHTER** Anti-Freeze Concentrate may be required. Test the system annually.

(over)



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-100°F (-73°C) BURST PROTECTION

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**NON-TOXIC
ANTI-FREEZE
PROTECTS SYSTEMS TO
-100°F (-73°C)**

TECHNICAL CHARACTERISTICS

FREEZE-FIGHTER CONCENTRATE FREEZE AND BURST PROTECTION CHART				
FREEZE PROTECTION	BURST PROTECTION	CONCENTRATION	PARTS BY VOLUME FREEZE-FIGHTER CONCENTRATE	PARTS BY VOLUME WATER
0°F (-17°C)	-50°F (-46°C)	40%	2	3
-15°F (-26°C)	-60°F (-49°C)	50%	1	1
-35°F (-37°C)	-80°F (-62°C)	75%	3	1
-50°F (-46°C)	-100°F (-73°C)	100%	UNDILUTED	

HOW TO SIZE YOUR SYSTEM

The capacity of your boiler can be found on the boiler plate, in the boiler manual or contact the manufacturer. Use the following chart to help determine the number of gallons of **FREEZE-FIGHTER** mixture required to fill the system.

VOLUME/PIPE SIZING									
	PIPE DIAMETER								
	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
Number of Gallons Per 100' Standard Steel Pipe	1.6	2.8	4.5	10.5	17.5	25.0	39.0	53.0	66.7
Number of Gallons Per 100' Type "L" Copper Tubing	1.2	2.5	4.3	9.3	16.1	24.8	35.4	47.8	62.0

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