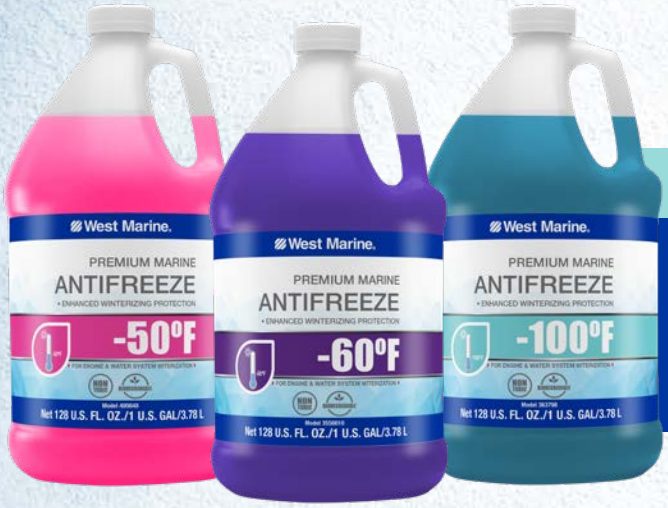
West Marine

ANTIFREEZE 101

ENHANCED WINTERIZING PROTECTION



NON TOXIC

BIODEGRADABLE

Did you know?

Water is the only liquid that expands when it freezes. We use storage antifreezes like West Marine -50, -60, or -100 to lower the freezing point of water and limit that expansion. This prevents pipes from bursting or engine blocks from cracking.

Understanding Burst Points and Freeze Points

Burst Point

The **burst point** of an antifreeze is the temperature at which a sealed copper pipe filled with undiluted antifreeze will burst. A few important facts about burst points:

- West Marine lists burst points in the name of each product
- Burst ratings are a standard historically based on copper pipes
- Newer materials like PVC or PEX burst at higher temps
- The correct antifreeze should be chosen based on lowest expected temperatures for your area

Freeze Point

A **freeze (or slush) point** is the temperature at which fluid begins to form ice crystals and may no longer flow, but has not yet begun to expand. This is completely normal for antifreeze.

- Freeze points occur at much higher temperatures than burst points
- West Marine lists freeze points and burst points on each label and online.
- Each manufacturer's blend freezes differently
- Use a refractometer to make sure your antifreeze mixture is within specification.

Using a Refractometer

A refractometer measures the approximate freeze point of an antifreeze blend or dilution to check whether it is within manufacturer's specs. It does so by measuring the refraction of active ingredients within a mixture.

A refractometer is the **#1 quality control tool you can use**. Just remember:

- Always calibrate your device first
- Only use the Propylene Glycol (PG) scale
- The reading is a reference only
- It tells you the freeze (slush) point of the mixture—that's when ice crystals begin to form.
- It does not tell you the burst point of a mixture. That is on the bottle.
- A refractometer cannot compare one blend to another

Use your readings to check against specifications on each West Marine bottle to see if you have properly diluted your mixture.

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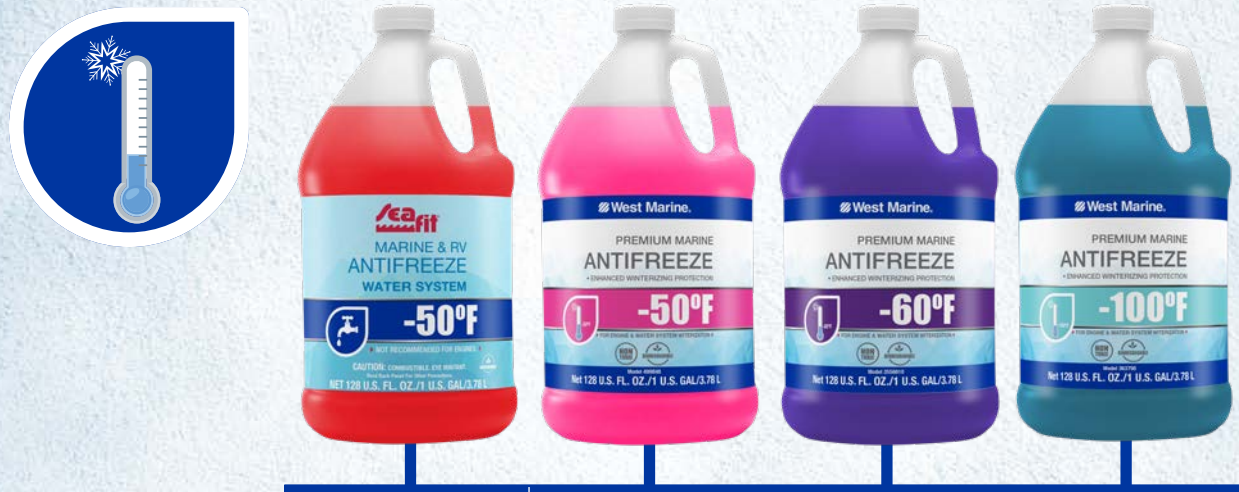
COMPARISON CHART

West Marine offers a complete line of storage antifreezes ready to meet your winterization goals. Use this chart to help choose the right one.



Sea fit	PREMIUM
Special alcohol blend	3x-dyed for best visibility
Super value	Premium additive package: Engine safe
Great for pools & water systems	Made with virgin, non-toxic propylene glycol

FORMULA	-50 SF	Premium -50	Premium -60	Premium -100
PART# GALLON	14823330	499848	3556610	363798
PART# 55GAL	14823348	363770	17016015	208341
COLOR	Red	Pink	Purple	Blue
BLEND	Alcohol	PG	PG	PG
DILUTABLE	✗	✗	✗	✓
FREEZE POINT (REFRACTOMETER READING)	6°F to 10°F	12°F to 16°F	-7°F to -10°F	-47°F to -50°F
BURST POINT: PVC	-6°F	-10°F	-12°F	-80°F
BURST POINT: COPPER	-50°F	-50°F	-60°F	-100°F
BURST POINT: REAL WORLD*	-59°F	-74°F	-83°F*	⬇ -83°F*

*WEST MARINE USES A DEEP FREEZER TO GET ACTUAL, REAL-WORLD QC TESTING RESULTS FOR ALL OF OUR ANTIFREEZES. THE FREEZER CHILLS TO A BLISTERING -83°F. SEVERAL OF OUR ANTIFREEZE EXCEED THAT EXTREME.