



ANTI-FREEZE 101

Understanding Burst Points and Freeze Points

The burst point of an antifreeze is the temperature at which a sealed copper pipe filled with the undiluted product will burst. Burst points are a standard created by the plumbing industry in the 1930s to indicate the relative strength of antifreeze. They have since become synonymous with the name of antifreeze products used for winter storage. Burst points help consumers choose the proper product based on the lowest expected temperatures for their specific area.

A freeze point is the temperature at which ice crystals begin to form in the undiluted product. Freeze points are the measurements given when using refractometers and hydrometers. Note: most refractometers provide readings on both a PG and an EG scale, so it is important to use the PG reading when testing this product. Hydrometers are either made to provide PG or EG readings. It is critical to test this product with a hydrometer specifically

designed to provide PG readings. Most hydrometers are purchased at auto supply stores and are designed for use with EG, so they cannot be used to test PG antifreeze. Keep in mind that it is normal to see readings that may vary by several degrees from the product's stated freeze point based on ambient temperature or the age of the product. For example, the freeze point of the -50°F product is +12°F, but it is not unusual to see readings in a range of +12°F to +16°F. Shake PG antifreeze well before testing as the heavier PG component may have settled toward the bottom.

Because the stored engine or water system is not in use, preventing ice crystals is not necessary, and to do so would require the use of a more expensive product with a higher PG content. As an example, the -50°F antifreeze has a freeze point of +12°F while the -100°F antifreeze has a freeze point of -60°F.

However, as the temperature drops the solution begins to solidify and expand, it puts pressure on pipes that can lead to damage. This is why it is important to select an antifreeze that will provide burst protection appropriate for a specific region's lowest anticipated temperatures. Products providing lower burst point temperatures contain higher concentrations of PG and are thus more expensive, but they will provide the protection needed in the event of extreme weather.



Starbrite®

ANTI-FREEZE 101



Starbrite® Wintersafe -50°F (-46°C) Non-Toxic Antifreeze

Starbrite® #31200 1-gallon, 210 Per Pallet

Starbrite® #312G55 55-gallon, 4 Per Pallet

Starbrite® Wintersafe -50°F (-46°C) Non-Toxic Antifreeze provides excellent cold weather and corrosion protection for drinking water systems and all engines at an attractive price. Its premium additive package prevents corrosion of aluminum, copper, brass and solder, but will not harm rubber, seals or hose materials. The 3X-died pink color provides excellent blow-through visibility. The virgin Propylene Glycol (28% Blend) formula is tasteless and contains no alcohol. This product is ready-to-use; do not dilute it.

Starbrite® Wintersafe -50°F (-46°C) Non-Toxic Antifreeze will provide burst protection to -50°F (-46°C) and freeze protection within a range of +14°F to +18°F (-10°C to -8°C). When testing with a refractometer or with a hydrometer designed for use with PG, freeze point readings on the PG scale will range from +14°F to +18°F. When winterizing water systems with plastic pipes in regions where temperatures can fall below -10°F (-23°C), we recommend using Starbrite® -100°F (-73°C) Non-Toxic Antifreeze.

Starbrite® Premium -50°F (-46°C) Non-Toxic Antifreeze

Starbrite® #31400 1-gallon, 210 Per Pallet

Starbrite® #314G55 55-gallon, 4 Per Pallet

Starbrite® -50°F (-46°C) Non-Toxic Antifreeze provides excellent cold weather and corrosion protection for drinking water systems and all engines. Its premium additive package prevents corrosion of aluminum, copper, brass and solder, but will not harm rubber, seals or hose materials. The 3X-died bright pink color provides excellent blow-through visibility. Formulated with non-toxic, virgin Propylene Glycol (30% Blend), it is tasteless and contains no alcohol. This product is ready-to-use; do not dilute it.

Starbrite® -50°F (-46°C) Non-Toxic Antifreeze will provide burst protection to -50°F (-46°C) and freeze protection within a range of +12°F to +16°F (-11°C to -9°C). When testing with a refractometer or hydrometer designed for use with propylene glycol, freeze point readings on the PG scale will range from +12°F to +16°F. Note: The burst point of PVC pipes used in most drinking water systems is about -10°F (-23°C). When winterizing water systems in regions where temperatures can fall below -10°F (-23°C), we recommend using Starbrite® -100°F (-73°C) Non-Toxic Antifreeze.



Starbrite® -100°F (-73°C) Non-Toxic Antifreeze

Starbrite® #31500 1-gallon, 210 Per Pallet

Starbrite® #315G55 55-gallon, 4 Per Pallet

Starbrite® -100°F (-73°C) Non-Toxic Antifreeze provides the ultimate in extreme cold weather and corrosion protection for drinking water systems and all engines. Its premium additive package prevents corrosion of aluminum, copper, brass and solder, but will not harm rubber, seals or hose materials. The 3X-died blue-green color provides excellent blow-through visibility. Formulated with non-toxic, Propylene Glycol (60% Blend), it is tasteless and contains no alcohol. This product is ready-to-use or may be diluted – please follow label directions for dilution ratios.

Starbrite® -100°F (-73°C) Non-Toxic Antifreeze will provide burst protection to -100°F (-73°C) and freeze protection within a range of -58°F to -63°F (-50°C to -52°C). When testing with a refractometer or hydrometer designed for use with propylene glycol, freeze point readings on the PG scale will range from -58°F to -63°F.

Starbrite® -200°F (-129°C) Non-Toxic Antifreeze

Starbrite® #31600 1-gallon, 210 Per Pallet

Starbrite® #316G55 55-gallon, 4 Per Pallet

Starbrite® -200°F (-129°C) Non-Toxic Antifreeze provides the ultimate in extreme cold weather and corrosion protection for drinking water systems and all engines. Its premium additive package prevents corrosion of aluminum, copper, brass and solder, but will not harm rubber, seals or hose materials. The 3X-died blue color provides excellent blow-through visibility. Formulated with non-toxic, virgin Propylene Glycol (96% Blend), it is tasteless and contains no alcohol. This product is ready-to-use or may be diluted – please follow label directions for dilution ratios.

Starbrite® -200°F (-129°C) Non-toxic Antifreeze will provide burst protection to -200°F (-129°C) and freeze protection within a range of -98°F to -103°F (-72°C to -75°C). Note: Most PG refractometers and/or hydrometers will not provide freeze point readings below -70°F.



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FOR MORE INFO: www.starbrite.com Made in U.S.A.