



# TECHNICAL DATA SHEET

## DESCRIPTION

Lubrizol's freezemaster™ antifreeze is a non-toxic, premixed antifreeze that is UL listed for use in wet fire sprinkler systems. It has a freezing point of -15°F (-26.1°C), and is formulated for corrosion protection in all piping systems including metal pipe and fittings. freezemaster™ antifreeze has been developed to meet stringent UL 2901 and NFPA 13, 13R, 13D and 25 fire standards.

**Refer to the freezemaster™ antifreeze Installation Guide for specific listings, approvals, directions and limitations.**

Minimum Use Temperature: -12°F (-24.4°C)

Maximum Use Temperature: 150°F (65.6°C)

**NOTE:** freezemaster™ antifreeze solution should only be used in areas subject to freezing unless otherwise permitted by the authority having jurisdiction (AHJ).

## DESIGN APPLICATIONS

Flow rates, pipe sizing, sprinkler spacing, hanging methods and system design must be in accordance with NFPA 13, 13R and 13D. freezemaster™ antifreeze is not listed for use in protecting extra hazard occupancies or flammable liquids, or use with ESFR sprinklers.

## SYSTEM LIMITATIONS

Fire sprinkler systems utilizing freezemaster™ antifreeze shall meet the system size limitations as follows:

Designation	Use Temp Range	Application	Max Volume of Antifreeze in Sprinkler System
Antifreeze	-12°F to 150°F (-24°C to 66°C)	NFPA 13D <sup>[1]</sup>	≤500 gal; in accordance with NFPA 13D design criteria
		NFPA 13R – Residential Only (including corridors, garages that serve only a single dwelling unit, and compartmented Ordinary Hazard areas ≤500 sq ft) <sup>[1]</sup> Where NFPA 13R requires the use of NFPA 13 design criteria, refer to the NFPA 13 applications and volume limitations.	≤500 gal; in accordance with NFPA 13R design criteria  Where NFPA 13 design criteria is required in areas of an NFPA 13R Occupancy, such as an attic, use the applicable volume limitation for the hazard area for NFPA 13.
		NFPA 13 - Light Hazard <sup>[1]</sup>	≤200 gal; in accordance with NFPA 13 design criteria or  >200 gal to ≤500 gal; in accordance with NFPA 13 using the dry system hydraulic design criteria, where the system hydraulics are designed as a dry system even though the system is filled with antifreeze.
		NFPA 13 – Ordinary Hazard Groups 1 & 2 <sup>[1]</sup>	≤40 gal; in accordance with NFPA 13 design criteria or  >40 gal to ≤500 gal; in accordance with NFPA 13 using the dry system hydraulic design criteria, where the system hydraulics are designed as a dry system even though the system is filled with antifreeze
		NFPA 13 – Storage <sup>[1]</sup>	≤40 gal; in accordance with NFPA 13 design criteria

[1] The antifreeze solution is intended to be installed in accordance with the manufacturer's instructions. For all systems, the following requirements shall apply: (a) the use of the antifreeze solution is limited to the aboveground system piping only except for a limited length of underground piping that connects sections of the aboveground system, (b) the viscosity of the antifreeze solution at the lowest anticipated temperature of the system shall be considered in the hydraulic design, (c) the friction loss shall be determined using the Hazen-Williams formula for water and the Darcy-Weisbach formula to account for the antifreeze solution fluid properties, and (d) the K-factor of the sprinkler shall be adjusted to account for the density of the antifreeze.

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## PACKAGING

WEIGHT PER U.S. GALLON  
9.1 lbs (4.1 kg)

PART NUMBER	DESCRIPTION
FRZ27-PP5P	freezema <sup>st</sup> er™ antifreeze -12°F 5-gallon pail
FRZ27-PTH55W	freezema <sup>st</sup> er™ antifreeze -12°F 55-gallon drum
FRZ27-T275B	freezema <sup>st</sup> er™ antifreeze -12°F 275-gallon tote

## MAINTENANCE

freezema<sup>st</sup>er™ antifreeze can remain in the system all year. NFPA 25 requires that antifreeze be tested annually. A portable hydrometer or refractometer can be used to see if the solution has changed appreciably.

Store freezema<sup>st</sup>er™ antifreeze indoors in a cool, dry place. freezema<sup>st</sup>er™ antifreeze is non-hazardous. Dispose accordingly per SDS instructions.

## TYPICAL PROPERTIES

APPEARANCE  
Clear blue liquid

FREEZE POINT  
-15°F (-26.1°C)

MINIMUM USE TEMPERATURE  
-12°F (-24.4°C)

POUR POINT  
-22.4°F (-30.2°C)

BURST POINT  
-58°F (-50°C)

DENSITY AT 77°F (25°C)  
1.085 g/cc

REFRACTIVE INDEX AT 77°F (25°C)  
1.390

SPECIFIC GRAVITY AT 77°F (25°C)  
1.088

FLUID EXPANSION/CONTRACTION  
<5%