

# Hybrid Corrosion Inhibitor 2706



**Nitrited Hybrid Organic Acid Technology (N-HOAT) for heavy-duty & automotive applications.**

Penray 2706 is an advanced hybrid antifreeze/coolant inhibitor package that combines conventional low silicate and organic acid chemistry for cost effective, superior protection against corrosion. This hybrid technology inhibitor provides exceptional protection against wet sleeve liner pitting/cavitation and cooling system corrosion.

Antifreeze/coolant made with glycol consistent with ASTM E1177-14 and 2706 may be used in heavy duty diesel engines. Penray's 2706 single system technology offers the easiest method of manufacturing a N-HOAT antifreeze/coolant.

## **BENEFITS**

- The simplicity of single system technology reduces manufacturing time and cost
- Up to 300,000 mile cooling system corrosion protection
- Combines cost effectiveness of Conventional with long life protection from ELC technology
- Outstanding aluminum protection
- Wet sleeve liner protection against pitting and cavitation
- Lubricity agents extend water pump life

## **SPECIFICATIONS**

- **ASTM D-6210**
- **ASTM D-3306**
- **TMCRP-364**
- **TMC RP-323**



*Blending with Penray technology produces industry leading coolants. See back for test results.*



<b>General Information:</b> 50/50:	Pre-dilute coolant contains 1.6% by volume of 2706
Concentrate:	Contains 3.2% by volume of 2706
Storage:	Above 32°F (0°C) to prevent freezing.
Product Weight:	575 lbs./55 gallons
Color:	Typically yellow, special colors are available.

**2706 @ 1.6% by volume in 50/50 Dilution**

**ASTM D-3306 Specifications**

Property	ASTM Test Method	ASTM Specification	Penray 2706 Performance
Specific Gravity @ 60 °F	D-1122	1.065 Min	1.227
Freezing Point °F (°C)	D-1177	50 Vol % in Distilled Water: -34 °F (-37 °C) Max or Lower	50 Vol % in Distilled Water: -38 °F (-39 °C)
Boiling Point <sup>A</sup> °F (°C)	D-1120	325 °F (163 °C) Min 226 °F (108 °C) Min	346 °F (174 °C) 226 °F (108 °C)
Effect: Automotive Finish	D-1882	No Effect	No Effect
Ash Content, Mass %	D-1119	5 Max	0.7 %
pH: 50 Vol % in Water	D-1287	7.5 – 11	10.71
Chloride, ppm	By IC	25.0 Max	2 ppm
Water, Mass %	D-1123	5 Max	2.7 %
Reserve Alkalinity, ml <sup>C</sup>	D-1121	Report	7.0 ml
Foaming Tendencies	D-1881	Break: <5 Sec Volume: <150 ml	Break: 1.8 Sec Volume: 60 ml
Corrosion in Glassware Weight Loss, mg/specimen	D-1384		
Copper		Less than 10mg	2 mg <b>(5x better than test standard)</b>
Solder		Less than 30mg	4 mg <b>(7x better than test standard)</b>
Brass		Less than 10mg	1 mg <b>(10x better than test standard)</b>
Steel		Less than 10mg	1 mg
Cast Iron		Less than 10mg	1 mg
Aluminum		Less than 30mg	0 mg <b>(No corrosion detected)</b>
Simulated Service Weight Loss, mg/specimen	D-2570		
Copper		Less than 20mg	-1 mg <b>(No corrosion detected)</b>
Solder		Less than 60mg	-1 mg <b>(No corrosion detected)</b>
Brass		Less than 20mg	0 mg
Steel		Less than 20mg	0 mg
Cast Iron		Less than 20mg	0 mg
Aluminum		Less than 60mg	-1 mg <b>(No corrosion detected)</b>
Corrosion of Cast Aluminum Alloys at Heat Rejecting Surfaces mg/cm <sup>2</sup> /week	D-4340 <sup>B</sup>	1.0 Max	0.0 <b>(No corrosion detected)</b>
Cavitation Erosion Rating: Pitting, Cavitation or Erosion of the Water Pump	D-2809	8 Min	8

<sup>A</sup> Some precipitate may be observed at the end of the test. This should not be cause for rejection.

<sup>B</sup> This test is not required by ASTM D-4985; however, ASTM D-3306 requires it.

<sup>C</sup> Value agreed between customer and supplier

**Penray significantly exceeds all industry test standards ensuring a quality product and satisfied customers**