

# KOST USA DefendAL®

## Heavy Duty Pre-Charged Coolant/Antifreeze

Approved for use in all  
heavy duty diesel  
engines requiring SCAs

No initial SCA  
pre-charge required

Phosphate-free, low  
silicate formulation

DefendAL® Heavy Duty Pre-Charged Coolant/Antifreeze is a premium quality, conventional technology ethylene glycol-based fluid. The product is specially formulated with industry-leading additives to provide optimum performance in heavy duty vehicles requiring supplemental coolant additives (SCAs).

### Available in:

#### Concentrate

Bulk  
Totes  
Drums  
Cases

#### 50/50 Premix

Bulk  
Totes  
Drums  
Cases

### DefendAL® Heavy Duty Pre-Charged Coolant/Antifreeze is your cooling system's best defense.

- Contains nitrites for superior wet sleeve liner cavitation protection.
- Provides maximum freeze and boil-over protection.
- Designed for heavy duty applications, yet can be used in automotive applications where conventional technology coolants are acceptable.
- Phosphate-free with low silicates.
- Effective, long-term corrosion protection for steel, solder, copper, iron, brass and aluminum.
- High-quality defoamer system, non-harmful to hoses, plastics or gaskets.
- Compatible with all major American brands of conventional coolants, with and without the addition of SCAs.\*
- Appropriate for use in on- and off-road diesel engines, as well as in stationary engine applications where a conventional pre-charged coolant is required.

\*SCA levels will need maintaining throughout the life of the engine. Consult your owner's manual for recommendations.

KOST USA, Inc. recommends to always properly dispose of spent coolant. Contact your state or local municipality for instructions on proper disposal to protect our environment. If a coolant spill occurs, call local authorities and ask for proper instruction on how to clean up the spill.

Think of our products as  
**Liquid Assets.™**





# Heavy Duty Pre-Charged Coolant/Antifreeze

## Performance Specifications\*

AGCO (Massey Ferguson) M1130A  
 ASTM D3306  
 ASTM D4985  
 ASTM D6210  
 BS 6580:2010  
 Buhler Versatile 86050054  
 CAT DEAC/ NGE  
 CID-A-52624A  
 Chrysler MS-7170  
 CNH MAT 3620 (87692740)  
 Cummins CES 14603  
 Daimler DBL 7700.00  
 Daimler DBL 7700.10  
 Daimler DBL 7700.20  
 DDC 93K217  
 EMD MI 1748F  
 Ford ESE-M97B18-C  
 Ford ESE-M97B44-A  
 GM 1825M  
 GM 6038M  
 GM 1899M  
 GET-2594F (MI-09500)  
 JCB STD00088  
 Jenbacher 1000-201  
 John Deere JDM H24A  
 John Deere JDM H24B, C  
 John Deere JDS-G135  
 Liebherr  
 Mack GS17004  
 MTU 5048  
 MWM Deutz TR0199-99-1115  
 Navistar CEMS B-1 Type I  
 Navistar CEMS B-1 Type II  
 Perkins (CAT)  
 SAE J1034  
 SAE J1941  
 TMC RP 302A  
 TMC RP 302B  
 TMC RP 303C  
 TMC RP 329  
 Volvo Coolant VCS  
 Waukesha 4-2429H  
 Wisconsin Motors (Continental)

Always consult your vehicle owner's manual for proper fluid removal and flushing procedures.

\*Meets performance requirements but may or may not meet certain chemical requirements.

	ASTM Method	Concentrate	50/50
Glycols Content, mass %	GC	96.5	49
Bittering Agent (yes/no)		Yes	Yes
Water Content, mass %	D1123	2	50
Corrosion Inhibitor System, mass %		2	1
Specific Gravity @ 60°F	D1122	1.125	1.075
Flash Point	D97	240°F (116°C)	N/A
pH	D1287	10.8	10.5
RA	D92	5.6	2.8
Storage Stability		1 year	1 year
Effect on Non-Metals	D1882	No Effect	No Effect
Cavitation Erosion Rating	D2809	8 min	8 min
Foam Test, ml/sec	D1881	<50/3	<50/3
Fluid Color	Visual	Fuchsia	Fuchsia
Coolant/Antifreeze % 40/60 Freeze Point	D1177	-24°F (-12°C)	N/A
Coolant/Antifreeze % 50/50 Freeze Point	D1177	-34°F (-36°C)	-34°F (-36°C)
Coolant/Antifreeze % 60/40 Freeze Point	D1177	-62°F (-52°C)	N/A
Coolant/Antifreeze % 40/60 Boil Point	D1120	221°F (105°C)	N/A
Coolant/Antifreeze % 50/50 Boil Point	D1120	226°F (108°C)	226°F (108°C)
Coolant/Antifreeze % 60/40 Boil Point	D1120	234°F (112°C)	N/A
Ash Content	D1119	<5.0	<2.5
Chloride (mg/L)	D3634	<25	<25
Silicon Content (mg/L)	D6130	<250	<125
Nitrite Content (mg/L)	D5827	2550	1250
Nitrate Content (mg/L)	D5827	600	300

All reasonable care has been taken to ensure that the information herein is accurate as of the date of printing. Freedom to use any patent owned by KOST USA, Inc. or others is not to be inferred from any statement contained herein. The test results listed are typical properties only. Formula and blending changes may result in the slight color and appearance changes.



## Company Identification

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