



ZEREX™ Asian Vehicle antifreeze coolant is a new automotive engine coolant developed by Valvoline. The patented⁺ silicate free, hybrid organic acid technology formulation (HOAT) has a service life of up to five years or 150,000 miles. It incorporates premium state-of-the-art phosphated organic acid additive technology in an ethylene glycol base for complete protection of today's modern cooling system and engine components.

ZEREX™ Asian Vehicle contains no silicates, borates, 2-ethylhexanoic acid (2-EHA), amines or nitrites. It is compatible with premium long life Asian coolants, both for service and factory fill. Valvoline recommends ZEREX Asian Vehicle for all late model Asian vehicles. It is dyed light violet to distinguish its unique chemistry from traditional coolants and to promote color compatibility.

ZEREX™ Asian Vehicle meets both ASTM and JIS specifications. When diluted 30 to 50% with water, it protects all modern engine components from winter freezing and summer boiling. The chart at the top right provides detailed mixing information. ZEREX Asian Vehicle is storage stable for up to five years as both a concentrate or diluted with water. It contains a high quality defoamer and will not harm gaskets, hoses, plastics or original vehicle paint. ZEREX Asian Vehicle is hard water compatible.

Call 1-800- TEAM-VAL with questions.

ZEREX™ Asian Vehicle is formulated to meet or exceed the following antifreeze specifications and/or is recommended:

- | | |
|------------------------|--------------------------------|
| Toyota / Scion / Lexus | Hyundai / Kia MS 591-08 |
| Honda / Acura | Dae Woo |
| Nissan / Infiniti | Daihatsu |
| Mitsubishi ES-64217 | JIS K 2234-1994 |
| Subaru | Ford WSS-M97B55-A |
| Mazda | Federal Specification A-A-870A |
| Suzuki | ASTM D3306 |
| Isuzu | ASTM D4985 |

ZEREX™ Asian Vehicle Ready-to-Use Antifreeze / Coolant

5 Years / 150,000 miles / 3,000 hours

ZEREX™ Asian Vehicle Antifreeze/Coolant Boil/Freeze Protection		
% Antifreeze	Freezing Point, °F/°C	Boiling Point**, °F/°C
40	-12/-24	260/126
50	-34/-36	265/128
60	-54/-48	271/133
70*	-90/-67	277/135

* Maximum freeze protection is at 70%.

** Boiling point shown using conventional 15 psig radiator cap.

ZEREX™ Asian Vehicle Typical Physical Properties		
Antifreeze Glycols	mass %	91.0
Corrosion Inhibitors	mass %	7.0
Water	mass %	2.0
Flash Point	°F/°C	250/121
Weight per gallon @ 60°F/16°C	lbs / KG	9.54 / 4.33
Silicon as Si	ppm	<10 max
Borates as B	ppm	<10 max

ZEREX™ Asian Vehicle Aluminum Water Pump Tests		
ASTM D2809 Pump Cavitation (Extended Test)		
Test Period	Results	Specification
100 hours	10	8

ASTM cavitation corrosion rating: 10 - perfect 1 - perforated

Valvoline recommends that spent coolant never be disposed of by dumping into a septic system, storm sewer or onto the ground. Instead, contact your state or local municipality for instructions on where to and how to properly dispose of this coolant and protect our environment.

If any coolant is spilled onto the ground, contain the spill and call the state authorities and ask for proper instruction on how to clean up the spill.

*US Patent 5,454,967



Characteristics	Specifications	Typicals	ASTM Method
Chloride	25 PPM, max.	<10	D3634
Silicon as Si	<10	<1	-
Specific gravity, 60/60° F	1.1220 – 1.145	1.1450	D1122
Freezing point, 50% V/V	-34°F/-36°C	-34°F/-36°C	D1177
Boiling point, undiluted	325°F/162°C	347°F/175°C	D1120
Boiling point, 50% V/V	226°F/107°C	227°F/108°C	D1120
Effect on engine or vehicle finish	No Effect	No Effect	-
Ash content, mass %	5 max	<5	D1119
pH, 50% V/V	8-9	8.4	D1287
Reserve alkalinity*	Report	12	D1121
Water mass %	5 max.	2.3	D1123
Color	Distinctive	Red Violet	-
Effect on nonmetals	No Adverse Effect	No Adverse Effect	-
Storage stability	-	5 years	-
Foam Tests	150 ml Vol., max.	80 ml	D1881
	5 sec. Break, max.	1.6 sec.	D1881
JIS K2234	Max.4	Max. 4	N/A
Cavitation-erosion rating	8 min.	10	D2809

*Reserve alkalinity (RA) is a term used to indicate the amount of alkaline inhibitors present in an antifreeze formulation. It is incorrect to relate a high RA with a high-quality antifreeze. Present state-of-the-art antifreeze formulations contain many new inhibitors which give added protection to certain metals but do not raise the RA number.

Typical ASTM Corrosion Test Results			
Glassware Corrosion Test	Weight Loss Mg/Specimen		ASTM Method
	Spec.	Actual	
Copper	10	2	D1384
Solder	30	1	
Brass	10	1	
Steel	10	1	
Cast iron	10	3	
Aluminum	30	0	
Simulated Service Test			
Copper	20	2	D2570
Solder	60	4	
Brass	20	4	
Steel	20	0	
Cast iron	20	1	
Aluminum	60	1	
Hot Surface Corrosion			
	mg/cm ² /wk		
Specimen weight loss	1.0	0.1	D4340
Repassivation of Aluminum Surfaces			
	Minimum, mV		
Average of 3 Tests	>-400	+447	D6208

This information only applies to products manufactured in the following location(s): USA, Canada

Material/Product Part #	Product	Unit UPC	Carton UPC
675130	ZEREX Asian Vehicle Ready –To-Use AFC 6/1 GAL	0 28882-00388 9	0 28882-00387 2
675129	ZEREX Asian Vehicle Ready –To-Use AFC 55 GAL Drum	0 28882-00390 2	
694364	ZEREX Asian Vehicle Ready-To-Use AFC Bulk		

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