

Automotive Engines 10th

Chapter 12 Antifreeze and Coolant

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1. Why is a 50/50 mixture of antifreeze and water commonly used as a coolant?
2. What are some of the heavy metals that can be present in used coolant?
3. What are the differences among IAT, OAT, HOAT, and PHOAT coolants?
4. What is the difference between galvanic activity and electrolysis?
5. What types of coolant are used in vehicles?

Answer Key

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1. A 50/50 mixture provides the best combination of freezing protection and heat transfer ability of the coolant.
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2. Some of the heavy metals found in used coolant include lead, aluminum, and iron.
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3. IAT contains silicate and phosphates and is used in vehicles older than 1996. OAT, HOAT, and PHOAT are used in many vehicles and include their own additive package.
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4. Galvanic activity is voltage production without an outside source of voltage, whereas electrolysis is created when the vehicle has a poor ground connection.
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5. All factory installed coolant is ethylene-glycol based and currently includes: OAT, HOAT, and PHOAT formulations.
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