Bulletin No.: 10-06-04-013C
Date: Dec-2015

Service Bulletin

INFORMATION

Subject: Information on Diesel Exhaust Fluid (DEF) Filling Instructions, Frozen Tank Status and General Information

Models: 2010 Chevrolet Express Vans
2011-2016 Chevrolet Express Vans, Silverado 2500-3500HD
2010 GMC Savana Vans
2011-2016 GMC Savana Vans, Sierra 2500-3500HD
Equipped with 6.6L Duramax™ Diesel Engine (RPOs LML, LGH)

Attention: This Bulletin also applies to any of the above models that may be Export vehicles.

This Bulletin has been revised to add the 2016 Model Year and update information under DEF Filling Instructions. Please discard Corporate Bulletin Number 10-06-04-013B.

This bulletin covers various topics related to the diesel exhaust fluid (DEF) system and is broken down by topic. Please provide a copy to customers as a reference point. This bulletin does not address any specific service repairs, only general information regarding the intended operation of the DEF system.

DEF Filling Instructions

Customers or dealers may have comments on adding fluid to the DEF tank. The capacity of the tank is 20♦L (5.3♦gal) and the trucks are shipped with 7.5♦L (2♦gal) from assembly.

DEF basically behaves like water and will freeze at -11°C (12°F) and will expand. This does not normally cause a problem if the DEF tank is not overfilled. Adding more than the 20♦L (5.3♦gal) usable capacity may not allow for DEF expansion when frozen.

To prevent damage from freezing, during PDI do not add more than the 13♦L (3.5♦gal) allowed during PDI. This should be done just before delivery to the customer.

Tip: To maximize driving range and to prevent over filling the tank, wait until the "Exhaust Fluid Range: 1000 miles (approximate) (1609km)" message appears on the DIC. At this point, add up to 13 L (3.5 gal). Do not add more than 13 L (3.5 gal) of DEF. When using the CC&A DEF 3.78 L (1 Gal) 19286291 (88862660 (Canada) or 9.46 L (2.5 Gal) 19286292 (88863524 (Canada) fluid with the nozzle properly installed, when fluid reaches the top of the fill pipe, stop filling. Instructions are provided on the bottle for proper nozzle installation. If another source of DEF is being used, when fluid initially reaches the top of the fill pipe, stop filling and do not force additional fluid into the tank.

Frozen Tank Status

Condition

In operating temperatures of 15°F (−9°C) or less, customers may comment on an “Exhaust Fluid Range” message displaying on the DIC even though the DEF fluid has been filled.

Cause

When the DEF is frozen, the level sensor cannot determine the fluid level in the tank. If this occurs the logic of the PCM will assume a default fluid level. The logic will use the calculated range based on DEF dosing history and the assumed fluid level.

If there is a high learned dosing rate and the fluid has not thawed to where the pins of the level sensor can function, there is a possibility the “Exhaust Fluid Range” message can set with the range from approximately 1609 km (1000 mi) to less than 482 km (300 mi), even though the tank is known to have fluid or be full.

Correction

This is an operating characteristic of the system. However to increase or eliminate the range message, once the range drops below 482 km (300 mi), the DEF tank should be refilled. This should allow refill detection to occur and turn off the range indicator. The operator must be sure not to overfill the DEF tank using the instructions provided in this bulletin or in the owner's manual.

When in frozen tank status, refill detections are not allowed until the warning strategy reaches the point at which the distance remaining is less than 482 km (300 mi). The refill detection is dependent on the DEF thawing enough that the level sensor pins can be read. A fully frozen tank can take almost an hour to detect a refill, after the vehicle is started.

This condition should not be confused with the situation described in PIP4864: "Low Or Speed Limited Diesel Exhaust Fluid Message (DEF) Will Not Reset". However it can be very difficult to differentiate the PIP4864 and the Frozen Tank Status. If there is any question about which condition has occurred, and there is an updated calibration available through TIS, follow the instructions in PIP4864.

Tank Fill Level Status and DEF Range Remaining

The DEF system only provides range information from approximately 1609 km (1000 mi) and lower. If there is not any warning, the range is more than 1609 km (1000 mi) at the current usage rate. The range can and will change based on the environmental conditions and vehicle use.

The scan tool does show information on tank capacity, however it only covers approximately 6.32 L (1.67 gal) of volume and is used to calculate the remaining range starting with the 1609 km (1000 mi) remaining status using 3 pins to detect the level status.

Using the scan tool in the ECM, Data Display function, the following information is available:

Reductant Level	Pins Detecting Fluid	Volume Detected
33%	1	1.25 L (0.33 gal)
66%	2	3.74 L (0.99 gal)
100%	3	6.32 L (1.67 gal)

Distance remaining calculation has 3 phases:

- Phase 1 – Fixed consumption mode
  - Active only when vehicle is first flashed.
  - Distance remaining is calculated based on the volume estimated in the tank and a calibrated consumption rate.
  - The system transitions to Phase 2 after a calibrated distance and minimum dosed quantity of DEF.
- Phase 2 – Dynamic consumption mode
  - Distance remaining based on volume of mass in tank and rolling average of urea consumption using 5 blocks of data.
  - At transition from Phase 1, the 5 blocks are populated with average consumption from Phase 1.
  - The moving average of consumption rate is then updated at calibrated intervals (currently 320 km (200 mi) for Silverado/Sierra models and 400 km (250 mi) for Express/Savana vans.
- Phase 3 – Level below 2nd pin
  - Dynamic consumption mode (same as Phase 2)
  - Separate mileage interval can be applied once in Phase 3.
  - Silverado/Sierra = 160 km (100 mi)
  - Express/Savana = 200 km (125 mi)

Refill Detection Chart

The following chart shows the parameters related to how the DEF system recognizes a fluid fill.

If the truck is parked on an incline, it is possible a stationary refill detection may require more than 3.7 L (1 gal) to be recognized. Driving refill detection should still function properly.

If the tank is frozen, the detection process can be delayed.

Driving Refill Detection	Override Refill Detection	Fast Refill Detection
—	Stationary refill detection	Stationary refill detection
Vehicle speed must be greater than 9 km/h (6 mph) to release filters	—	Tank level is set to raw value from DLS (0%, 33%, 66%, 100%)
Engine on timer determines time allowed to detect refill (currently 240 seconds)	Allowed in warning levels 5–8, “Exhaust fluid low : Speed limited soon” thru “ Exhaust fluid empty refill now-4 mph max speed next fluid fill” (Inducement without fuel refill detected)	Allowed in warning levels 5–8, “Exhaust fluid low : Speed limited soon” thru “ Exhaust fluid empty refill now-4 mph max speed next fluid fill” (Inducement)
Allowed in Warning Levels None (0) - 4, up to but not including "Exhaust Fluid Low: Speed Limited Soon"	Can require up to 20 seconds to complete	Must be on level ground to reduce error (Tied to fuel refill detection)
—	May be followed by a driving refill detection	Allowed without fuel refill detection at highest warning level “Exhaust fluid empty now — speed limited to 4 mph”
—	Once refill is detected, speed limitation is not released until vehicle speed=0 mph which means it must come to a complete stop	Once refill is detected, speed limitation is not released until vehicle speed=0 mph which means it must come to a complete stop

Warning Level Strategy

The following information describes the warning level strategy.

An adequate on-board supply of diesel exhaust fluid (DEF) is critical for the reduction of exhaust oxides of nitrogen (NOx) levels within the selective catalyst reduction (SCR) stage. This vehicle provides the driver with an elaborate series of prompts and warnings that are initiated when the DEF level falls below a calibrated value to insure the vehicle remains compliant to emissions regulations.

The engine control module (ECM) monitors the DEF level and consumption rate in order to calculate an estimated range in miles remaining until the DEF reservoir is empty. DEF levels are detected by the position solid-state DEF level sensor. Typically, DEF warnings begin once the estimated mileage falls below 1,609 km (1,000 mi). Once initiated, DEF warnings grow increasingly more serious as the remaining mileage decreases without a DEF refill. The vehicle’s current DEF warning level is displayed on the scan tool as Reductant Level Warning Indicator Command Level 1 through Level 9. If the vehicle is not in any warning strategy, it will be displayed as “None.”

Warning Level 1

Warning Level 1 is triggered when the DEF level falls below the top-most position of the DEF Level Sensor and the estimated range remaining is greater than 1609 km (1000 mi). No prompts or warnings are presented to the driver.

Warning Level 2

Warning Level 2 is triggered when the estimated range remaining falls below 1,609 km (1,000 mi) based on current DEF consumption rates. The driver information center (DIC) displays the message Exhaust Fluid Range X MI, where X is the estimated range remaining in miles. This message remains on the DIC until acknowledged by the driver.

Warning Level 3

Warning Level 2 automatically advances to Warning Level 3 when the ECM detects an ignition ON to ignition OFF event. A level 3 warning remains active as long as the estimated range remaining is greater than 644 km (400 mi) based on current DEF consumption rates. No prompts or warnings are presented to the driver.

Warning Level 4

Warning Level 4 is triggered when the estimated range remaining falls below 644 km (400 mi) based on current DEF consumption rates. The message Exhaust Fluid Range X MI, where X is the estimated range remaining in miles is displayed on the DIC. This message is also displayed at the beginning of each ignition cycle. This message remains on the DIC until acknowledged by the driver.

Warning Level 5

Warning Level 5 is triggered when the estimated range remaining is less than approximately 121 km (75 mi) based on current DEF consumption rates. The message Exhaust Fluid Low - Speed Limited Soon, is displayed on the DIC. This message is also displayed at the beginning of each ignition cycle. This message remains on the DIC until acknowledged by the driver.

Warning Level 6

Warning Level 6 is triggered when the estimated range remaining is less than approximately 0 km (0 mi) based on current DEF consumption rates. The driver will hear four chimes on entering Warning Level 6. The DIC displays the following messages:

- Exhaust Fluid Empty Refill Now
- 89 km/h (55 mph) Max Speed upon Restart

The messages are also displayed at the beginning of each ignition cycle. The Exhaust Fluid Empty Refill Now message remains on the DIC until acknowledged by the driver. The 89 km/h (55 mph) Max Speed Upon Restart message is not acknowledgeable.

At the next ignition ON event, the system will advance from Warning Level 6 to Warning Level 7. If fuel is added to the vehicle without an ignition cycle the system will advance to Warning Level 8.

In the event of a refill, the scan tool may show that fluid has been added, but the vehicle may not release from the warning level unless it is driven for greater than 10 km/h (6 mph) for approximately five minutes.

If the vehicle speed has been limited and DEF has been added, it may take up to 30 seconds after engine start with the vehicle stopped for the EXHAUST FLUID EMPTY message to clear. If the vehicle is driven prior to the DIC message clearing, the vehicle speed will still be limited. If the DIC message clears while driving, the vehicle must be completely stopped to remove the speed limitation.

If DEF is added under freezing conditions, additional time may be required to remove speed limitations.

Warning Level 7

Warning Level 7 is active at the next ignition ON event. The driver will hear four chimes on entering Warning Level 7. The four chimes are repeated three more times during this ignition cycle. The DIC displays the following messages:

- Exhaust Fluid Empty Refill Now
- Speed Limited to 89 km/h (55 mph)

The messages are alternately displayed every five seconds on the DIC. Both messages remain on the DIC until acknowledged by the driver; however, the Speed Limited to 89 km/h (55 mph), remains locked on the DIC.

The DEF Indicator in the instrument panel flashes continuously. Warning Level 7 remains active until a refueling event is detected.

Vehicle speed is now limited to 89 km/h (55 mph) maximum.

In the event of a refill, the scan tool may show that fluid has been added, but the vehicle may not release from the warning level unless it is driven for greater than 10 km/h (6 mph) for approximately five minutes.

If the vehicle speed has been limited and DEF has been added, it may take up to 30 seconds after engine start with the vehicle stopped for the EXHAUST FLUID EMPTY message to clear. If the vehicle is driven prior to the DIC message clearing, the vehicle speed will still be limited. If the DIC message clears while driving, the vehicle must be completely stopped to remove the speed limitation.

If DEF is added under freezing conditions, additional time may be required to remove speed limitations.

Warning Level 8

Warning Level 8 is triggered when the ECM detects that additional fuel was added without a refill of the DEF reservoir. The driver will hear four chimes on entering Warning Level 8. The four chimes will repeat three more times during this ignition cycle. The DIC displays the following messages:

- Exhaust Fluid Empty Refill Now
- Speed Limited to 89 km/h (55 mph)
- 6 km/h (4 mph) Max Speed at Next Fuel Fill

The messages are alternately displayed every five seconds on the DIC. The three messages remain on the DIC until acknowledged by the driver. Once acknowledged, the Speed Limited to 89 km/h (55 mph), and 6 km/h (4 mph) Max Speed at Next Fuel Fill, remain locked on the DIC.

The DEF Indicator in the instrument panel flashes continuously. The vehicle remains in Warning Level 8 until the DEF reservoir is refilled or a second refueling event is detected.

Vehicle speed is limited to 89 km/h (55 mph) maximum.

In the event of a refill, the scan tool may show that fluid has been added, but the vehicle may not release from the warning level unless it is driven for greater than 10 km/h (6 mph) for approximately five minutes.

If the vehicle speed has been limited and DEF has been added, it may take up to 30 seconds after engine start with the vehicle stopped for the EXHAUST FLUID EMPTY message to clear. If the vehicle is driven prior to the DIC message clearing, the vehicle speed will still be limited. If the DIC message clears while driving, the vehicle must be completely stopped to remove the speed limitation.

If DEF is added under freezing conditions, additional time may be required to remove speed limitations.

Warning Level 9

Warning Level 9 is triggered on the next ignition cycle following a second refueling event without a refill of the DEF reservoir. The driver will hear four chimes on entering Warning Level 9. The four chimes will repeat every three minutes until the DEF reservoir is refilled. The DIC displays the following messages:

- Exhaust Fluid Empty Refill Now
- Speed Limited to 6 km/h (4 mph)

The messages are alternately displayed every five seconds on the DIC. Both messages remain on the DIC until acknowledged by the driver; however, the Speed Limited to 6 km/h (4 mph) Max, message remains locked on the DIC.

The DEF Indicator in the instrument panel flashes continuously. The vehicle remains in Warning Level 9 until the DEF reservoir is refilled.

Vehicle speed is limited to 6 km/h (4 mph) maximum.

If the vehicle speed has been limited and DEF has been added, it may take up to 30 seconds after engine start with the vehicle stopped for the EXHAUST FLUID EMPTY message to clear. If the vehicle is driven prior to the DIC message clearing, the vehicle speed will still be limited. If the DIC message clears while driving, the vehicle must be completely stopped to remove the speed limitation. For this condition, it is highly recommended to allow the message to clear prior t driving the vehicle.

If DEF is added under freezing conditions, additional time may be required to remove speed limitations.

Diesel Exhaust Fluid (DEF) Warning Strategy (DEF Quality)

A supply of clean, fresh diesel exhaust fluid (DEF) is critical for optimum selective catalyst reduction (SCR) efficiency. Selective catalyst reduction (SCR) efficiency is determined by monitoring the nitrogen oxide (NOx) sensors located upstream and downstream of the SCR. This vehicle provides the driver with an elaborate series of prompts and warnings that are initiated when the engine control module (ECM) detects a drop in the SCR NOx reduction efficiency suggesting a diluted or contaminated DEF supply.

When contaminated or diluted DEF is suspected, the ECM initiates the DEF Quality warning process. Once initiated, DEF quality warnings grow increasingly more serious as the vehicle continues to be driven. The vehicle's current DEF quality warning status is displayed on the scan tool. When a drop in SCR efficiency is detected, the normally OFF Reductant Field Quality Warning Indicator Command will display Warning Level 1 through Warning Level 5 depending on the number of miles driven, the number of ignition cycles, and if a refueling event was detected. The series of DEF Quality Warnings alert the driver that DEF system service is urgently needed.

Warning Level 1

Warning Level 1 is triggered when the ECM first detects the SCR efficiency is below a calibrated value. The driver information center (DIC) displays the following messages:

- Exhaust Fluid Quality Poor
- See Owner's Manual Now
- 89 km/h (55 mph) Max Speed on Restart

The messages remain on the DIC until acknowledged by the driver. The DEF Indicator in the instrument panel is illuminated

Warning Level 2

Warning Level 2 is triggered when the distance driven since receiving the first DEF poor quality message exceeds approximately 805 km/h (500 mi). The driver will hear four chimes on entering Warning Level 2. The DIC displays the following messages:

- Exhaust Fluid Quality Poor
- See Owner's Manual Now
- 89 km/h (55 mph) Max Speed on Restart

The messages alternate every five seconds until acknowledged by the driver; however, the 89 km/h (55 mph) Max Speed on Restart, remains displayed on the DIC. The DEF Indicator in the instrument panel is illuminated.

Warning Level 3

Warning level 2 automatically advances to warning level 3 at the next ignition cycle. The driver will hear four chimes on entering warning level 3. The series of chimes is repeated three times during each ignition cycle. The DIC displays the following messages:

- Exhaust Fluid Quality Poor
- See Owner's Manual Now
- 89 km/h (55 mph) Max Speed on Restart

The messages alternate every 5 seconds until acknowledged by the driver; however, the Speed Limited to 89 km/h (55 mph), remains displayed on the DIC. The DEF Indicator in the instrument panel flashes continuously.

Vehicle speed is limited to 89 km/h (55 mph).

Warning Level 4

Warning Level 4 is triggered when the distance driven since receiving the first DEF Quality Warning message exceeds approximately 1,609 km (1,000 mi). The driver will hear four chimes on entering Warning Level 4. The series of four chimes will repeat three times during each ignition cycle. The DIC displays the following messages:

- Exhaust Fluid Quality Poor
- See Owner's Manual Now
- 89 km/h (55 mph) Max Speed on Restart
- 6 km/h (4 mph) Max Speed Next Fuel Fill

The messages alternate every five seconds until acknowledged by the driver; however, the Speed Limited to 89 km/h (55 mph), and 6 km/h (4 mph) Max Speed Next Fuel Fill, remain alternately displayed on the DIC. The DEF Indicator in the instrument panel flashes continuously.

Vehicle speed is limited to 89 km/h (55 mph).

Warning Level 5

Warning Level 5 is triggered when the distance traveled is greater than 1,609 km (1,000 mi) and the ECM detects a fuel fill event. The driver will hear four chimes on entering Warning Level 4. The series of four chimes will repeat every three minutes. The DIC displays the following messages:

- Exhaust Fluid Quality Poor
- See Owner's Manual Now
- 6 km/h (4 mph) Max Speed Next Fuel Fill

The messages alternate every five seconds until acknowledged by the driver; however, the Speed Limited to 6 km/h (4 mph), remains displayed on the DIC. The DEF Indicator in the instrument panel flashes continuously.

Vehicle speed is limited to 6 km/h (4 mph) maximum.

Diesel Exhaust Fluid (DEF) Warning Strategy (Anti-Tampering)

The reductant system supplies the selective catalyst reduction (SCR) stage of the vehicle's exhaust aftertreatment system with the diesel exhaust fluid (DEF) required to reduce exhaust oxides of nitrogen (NOx) levels. The engine control module (ECM) continuously monitors the performance of the reductant system during operation.

When the conditions associated with an attempt to disable reductant system operation are detected, the ECM activates the anti-tampering feature and presents the driver with a series of prompts and warnings.

Once initiated, anti-tampering warnings grow increasingly more serious as the vehicle continues to be driven. The vehicle's current warning status is displayed on the scan tool. When tampering is suspected, the normally OFF Reductant System Malfunction Warning Indicator Command will display Warning Level 1 through Warning Level 5 depending on the number of miles driven, the number of ignition cycles, and if a refueling event was detected. The series anti-tampering warnings alert the driver that reductant system service is urgently needed.

Warning Level 1

Warning level 1 is triggered when the ECM first detects an abnormal value on a reductant system circuit. The driver information center (DIC) displays the following messages:

- Service Exhaust Fluid System
- See Owner's Manual Now

The messages remain on the DIC until acknowledged by the driver. The DEF Indicator in the instrument panel is illuminated.

Warning Level 2

Warning level 2 is triggered when the distance driven since receiving the first Service Exhaust Fluid System, message exceeds approximately 805 km (500 mi). The driver will hear four chimes on entering Warning Level 2. The DIC displays the following messages:

- Service Exhaust Fluid System
- See Owner's Manual Now
- 89 km/h (55 mph) Max Speed on Restart

The messages alternate every five seconds until acknowledged by the driver; however, the 89 km/h (55 mph) Max Speed on Restart, remains displayed on the DIC. The DEF Indicator in the instrument panel is illuminated.

The system will advance from Warning Level 2 to either Warning Level 3 or Warning Level 4 depending on whether the ECM detects that additional fuel was added. The system advances to Warning Level 3 at the next ignition cycle if no fueling event was detected or to Warning Level 4 if additional fuel was added

during the current ignition cycle.

Warning Level 3

Warning Level 2 automatically advances to Warning Level 3 at the next ignition cycle. The driver will hear four chimes on entering Warning Level 3. The series of four chimes is repeated three times during each successive ignition cycle. The DIC displays the following messages:

- Service Exhaust Fluid System
- See Owner's Manual Now
- 89 km/h (55 mph) Max Speed on Restart

The messages alternate every five seconds until acknowledged by the driver; however, the Speed Limited to 89 km/h (55 mph), remains displayed on the DIC. The DEF Indicator in the instrument panel flashes continuously.

Vehicle speed is limited to 89 km/h (55 mph).

Warning Level 4

Warning Level 4 is triggered when the distance driven since receiving the first warning message exceeds 3,218 km (2,000 mi). The driver will hear four chimes on entering Warning Level 4. The series of four chimes will repeat three times during each successive ignition cycle. The DIC displays the following messages:

- Service Exhaust Fluid System
- See Owner's Manual Now
- 89 km/h (55 mph) Max Speed on Restart
- 6 km/h (4 mph) Max Speed Next Fuel Fill

The messages alternate every five seconds until acknowledged by the driver; however, the Speed Limited to 89 km/h (55 mph), and 6 km/h (4 mph) Max Speed Next Fuel Fill, remain alternately displayed on the DIC. The DEF Indicator in the instrument panel flashes continuously.

Vehicle speed is limited to 89 km/h (55 mph).

Warning Level 5

Warning Level 4 automatically advances to Warning Level 5 when ECM detects a fuel fill event. The driver will hear four chimes on entering Warning Level 5. The series of four chimes will repeat every three minutes until the vehicle is serviced. The DIC displays the following messages:

- Service Exhaust Fluid System
- See Owners Manual Now
- 6 km/h (4 mph) Max Speed Next Fuel Fill

The messages alternate every five seconds until acknowledged by the driver; however, the Speed Limited to 6 km/h (4 mph), remains displayed on the DIC. The DEF Indicator in the instrument panel flashes continuously.

Vehicle speed is limited to 6 km/h (4 mph) maximum.

Q & A

Q. Where can you purchase DEF?

A. DEF is available at GM dealerships and most major truck stop chains. GM DEF is available in a variety of package sizes to service both individual consumers and fleets, including 3.78 and 9.46 L (1 and 2.5 gal) jugs, 208 L (55 gal) drums and 1249 L (330 gal) totes.

The GM part numbers are:

- 1 gallon (P/N 19286291) (U.S.), 88862660 (Canada)
- 2.5 gallon (P/N 19286292) (U.S.), 88863524 (Canada)
- 55 gallon Drum (P/N 88863494) (U.S.), 88863496 (Canada)
- 330 gallon Tote (P/N 88863495) (U.S.); tote not available in Canada

If purchasing DEF outside of a dealership, you must use API-certified or ISO 22241 labeled DEF. If you need assistance locating DEF, the U.S. Department of Energy has a DEF locator on its website that is regularly updated. You can visit the website at: afdc.energy.gov/afdc/locator/def/.

Q. Will DEF freeze?

A. Yes, DEF will freeze—at approximately −11°C (12ºF)

Q. Does DEF expand when it freezes and if so, how does it impact the tank?

A. Yes, DEF expands when it freezes. The vehicle's DEF tank and all DEF packaging is designed to accommodate any expansion that may result from being frozen if the tank is not overfilled

Q. Can a freeze-point improver be added to the DEF to keep it from freezing?

A. No, doing so would alter the DEF mixture balance potentially triggering an “EXHAUST FLUID QUALITY POOR” DIC message.

Q. Does DEF have a limited shelf life?

A. DEF has a limited shelf life related to temperature (see chart below). It is best stored out of direct sunlight between -11°C (12ºF) and 30°C (86ºF).

Constant Ambient Storage Temperature C/F	Shelf Life (Months)
< 10 / 50	36
< 25 (a) /77	18
< 30 / 86	12
< 35 / 95	6
> 35/95	(b)
Note: The main factors taken into account to define the shelf life in this table are the ambient storage temperature and the initial alkalinity of AUS 32. The difference in evaporation between vented and non-vented storage containers is an additional factor.	
(a) To prevent decomposition of AUS 32, prolonged transportation or storage above 25°C (77°F) should be avoided. (b) Significant loss of shelf life: Check each batch before use.	

Q. Will DEF containers have a date stamp?

A. Yes, each container should be dated.

Q. What will happen if some other type of liquid is poured into the DEF system?

A. DEF is the only fluid approved and recommended by General Motors. Using a product not recommended by GM will trigger a DIC warning message and may damage the SCR system and void the warranty coverage (see DEF quality portion of this brochure). Refer to SI diagnostics for additional information.
