

Samsung SDI – High Voltage Battery Module/Pack

GENERAL

Manufacturer Name: **Samsung SDI Co., Ltd.**

Submission Date: **January 24, 2025**

Manufacturer Recall No.: **Not applicable.**

MANUFACTURER INFORMATION

Manufacturer Name: **Samsung SDI Co., Ltd.**

Address: [31086] 467 Beonyeong-ro, Cheonan, Republic of Korea

Company Phone: +82-41-965-2400

POPULATION

Number of potentially involved:

Samsung SDI refers the agency to Chrysler (FCA US, LLC) (“FCA US”), Volkswagen Group of America, Inc. (“VWGoA”) and Ford Motor Company’s (“Ford”) (collectively “OEM’s”) respective 573 reports, including information regarding the number of potentially involved vehicles, throughout this submission. Based on this information, Samsung SDI has been informed that 180,196 U.S. vehicles are potentially involved in the three recalls broken down as follows - FCA US 155,096, AUDI 4,616 and Ford 20,484.

The product Samsung SDI supplied to the OEM’s each have a battery cell that, to a certain extent, is similar but each product’s final design differs and is based upon, among other things, the respective specifications and requirements of each OEM for their respective vehicles.

EQUIPMENT INFORMATION

Brand / Trade 1: High Voltage Battery Module/Pack

Model: XX

Part Number: Samsung SDI Part No.

(FCA US) P05193152AC, P05193168AE~AL, P05193176AJ~AP, P05193177AJ~AP,
P05193181AA,P05193182AA,P05193199AC,P05193200AC

(AUDI) PA0180LS003E~H, PA0180LS003J, PA1904P105C, PA1904P106C

(Ford) MP0217NS002A~E, MP0217NS002F~H, MV2003E101AS

Size: NR

Function: Vehicle Propulsion

Description: Battery cell module/pack used in conjunction with PHEV powertrain system to supply vehicle torque.

Production Dates: JUL 01, 2020 - MAR 28, 2023 (Cell Production Dates for FCA US)
NOV 01, 2019 – NOV 30, 2021 (Cell Production Dates for VWGoA)
JUL 01, 2019 - MAR 28, 2023 (Cell Production Dates for Ford)

DESCRIPTION OF DEFECT OR NONCOMPLIANCE

FCA US's submissions state that in rare circumstances, a battery pack may contain cells with separator damage. Separator damage, combined with other complex interactions within the cells, may lead to a vehicle fire.

VWGoA's submissions state that in rare circumstances, the high-voltage battery modules may experience a thermal overload possibly resulting in smoke or fire.

Ford's submissions state that the high voltage cell's separator layer between its cathode and anode may be susceptible to damage as a result of the cell manufacturing process. Separator damage may result in a cell internal short circuit.

If a noncompliance, provide the applicable FMVSS: **NR**

If applicable, provide any further FMVSS affected: **N/A**

Description of Safety Risk: Based on the OEM's submissions, there is a possibility of a vehicle fire which could result in personal injury and/or property damage.

Description of the Cause:

VWGoA recall - The root cause is still under investigation. The current analysis seems to indicate that certain manufacturing deviations may have occurred at the battery cell and module.

FCA US recall - **NR to Samsung SDI's knowledge.**

Ford's recall – The root cause is still under investigation. The current analysis seems to indicate that variability in the battery cell supplier's production process may result in the cell's cathode inducing micro-defects and/or local stresses in the cell's separator layer. These micro-defects and local stresses may damage the separator.

Identification of Any Warning that can Occur:

According to FCA/AUDI: **None;**

According to Ford: in the event of a high voltage battery cell internal short circuit, the customer will receive a "Stop Safely Now" message displayed in the instrument cluster.

CHRONOLOGY

Samsung SDI provides the following summary chronology for the three OEM's recalls based upon the three entities' respective submissions to NHTSA:

On or about May 24, 2023, FCA US notified Samsung SDI about two (2) reported fire incidents in the Jeep Wrangler PHEV vehicle battery pack, and was then notified on or about October 11, 2023, about five (5) additional reported fire incidents. A task force team was organized to investigate the potential root cause along with other assessments.

In August, 2023, AUDI notified Samsung SDI about four (4) claimed battery pack fire incidents involving non-US vehicles.

The analysis of the potential root cause continued.

Around November 9, 2023, Samsung SDI was notified by FCA US about eight (8) more field reports.

On or about November 23, 2023, FCA US announced the recall of 32,125 Jeep Wrangler PHEV vehicles (NHTSA ID 23V-787, FCA US Recall ID "B9A").

On or about April 19, 2024, Samsung SDI was notified by FCA US of two reported fire incidents in Jeep Wrangler PHEVs outside the scope of the B9A recall.

From April 2024 through July 2024, Samsung SDI was notified by FCA US of additional reports of fires allegedly originating from the HV battery in certain Jeep Wrangler PHEVs and Jeep Grand Cherokee PHEVs. Samsung SDI assessed the battery packs it received for some of these vehicles to attempt to determine the root cause.

April 2024, after receiving additional reports of field incidents in non-U.S. markets, the AUDI Product Safety Committee decided to collect 50 high-voltage batteries from the field to assess.

Between April 2024 and November 2024, an analysis plan for high-voltage field batteries was developed and implemented between Samsung SDI and AUDI. Comprehensive analyses of the battery modules and high-voltage batteries from the field part collection and from additional field cases were carried out together with AUDI to attempt to determine the conditions and circumstances that may trigger a thermal event in the affected high-voltage battery modules. The root cause is still not fully understood, and the analysis is ongoing.

Between May 2024 and August 2024, Samsung SDI was notified by Ford of three field reports from Europe describing battery thermal venting occurring in non-US PHEV vehicles.

In July, 2024, Samsung SDI was notified by FCA US that it received reports of three fire incidents in Jeep Wrangler PHEVs after the B9A software flash remedy was applied. Samsung SDI received these incident packs and started to analyze them with FCA US to attempt to identify the potential root cause. Samsung SDI concluded that the current software remedy may not be effective for a certain abnormal condition, and worked with FCA US to develop a plan for this software.

On August, 2024, Samsung SDI reported to FCA US that the investigation results showed that the most likely root cause was separator damage combined with other complex interactions within the cell. Root cause investigation continues.

On September 4, 2024, Ford's Critical Concern Review Group (CCRG) opened an investigation into aforementioned three field reports from Europe describing battery thermal venting occurring in non-US PHEV vehicles. The venting incidents allegedly occurred between April 2024 and August 2024.

Between September and November 2024, the high voltage battery packs recovered from the three European vehicles were torn down and analyzed by Ford team members with support from Samsung SDI. Additionally, battery modules recovered from the packs were CT scanned to identify the cells where the venting allegedly originated. Samsung SDI also held regular discussions with Ford to identify potential root causes.

On October 2, 2024, FCA US decided to proceed with an additional recall. (24V-720 "95B", 24E-080 "96B"). Samsung SDI understands that the population of this recall is 118,230 Jeep Wranglers, 35,802 Jeep Grand Cherokees and 1,064 service kits.

On December 3, 2024, VWGoA reported a recall of 4,606 Q5 PHEV vehicles and 10 A7 PHEV vehicles (24V-898).

On December 30, 2024, Ford executed a recall of 16,048 Escape PHEV vehicles and 4,004 Lincoln Corsair PHEV vehicles (24V-954)

DESCRIPTION OF REMEDY

Please see the OEM's submissions about the remedy provided to the end-consumers and timing of the same.

RECALL SCHEDULE

Description of Recall Schedule for Notifications:

Refer to Part 573 Safety Recall Reports written by each OEM
(FCA US 24V-720, 24E-080 / AUDI 24V-898 / Ford 24V-954)

Planned Dealer Notification Date:

Refer to Part 573 Safety Recall Reports written by each OEM
(FCA US 24V-720, 24E-080 / AUDI 24V-898 / Ford 24V-954)

Planned Owner Notification Date:

Refer to Part 573 Safety Recall Reports written by each OEM
(FCA US 24V-720, 24E-080 / AUDI 24V-898 / Ford 24V-954)

PURCHASER INFORMATION:

The following manufacturers purchased the subject product for possible use or installation in new motor vehicles or new items of motor vehicle equipment:

Name : Chrysler (FCA US, LLC)

Address : 800 Chrysler Drive CIMS 482-00-91 Auburn Hills MI 48326-2757

Country : USA

Company Phone : 1-800-853-1403

Name : Volkswagen Group of America, Inc.

Address : 3800 Hamlin Road Auburn Hills MI 48326

Country : USA

Company Phone : 1-800-893-5298

Name : Ford Motor Company

Address : 330 Town Center Drive Suite 500 Dearborn MI 48126-2738

Country : USA

Company Phone : 1-866-436-7332

* NR - Not Reported