



Product Alert for Kidde Fire Systems Advanced Delivery System, Orifice Issue

July 19, 2023

Type of Notification: Performance/Safety Related Concern

FM Approvals has been made aware by Kidde Fire Systems of a potential safety related issue involving Advanced Delivery Systems (ADS) using either 3M™ Novec™ 1230 Fire Protection Fluid or FM-200™/HFC-227ea. The root cause of the concern is related to the incorrect selection of a Nitrogen orifice fitting.

Company Identity: Kidde Fire Systems
Address: 100 Main Street, Ashland, MA 01721

Contact Information: Technical Support at kidde_techsupport@carrier.com

FM Approval Status: FM Approved

Hazard Involved: The product in question is any Kidde Fire Systems, Advanced Delivery Systems (ADS) using either 3M™ Novec™ 1230 Fire Protection Fluid or FM-200™/HFC-227ea. It has been determined that the referenced incorrect Nitrogen orifice fitting, may potentially cause property damage, injury or death.

If you suspect you are in possession of any of an affected Advanced Delivery Systems (ADS) which were produced during May 5, 2018 – October 1, 2022, please follow the process indicated in the attached Kidde Fire Systems Product Safety Notice.

Antonio L. Pires
FM Approvals, Quality Department
Norwood, MA, USA
+1 (1)781 255 4825
Email: antonio.pires@fmapprovals.com



400 Main Street, Ashland, MA 01721 USA
508.881.2000 | kiddefiresystems.com



WARNING: IMPORTANT PRODUCT SAFETY NOTICE

#2023-01S

Date: March 22, 2023
To: Engineered Systems Distributors (Limited Circulation)
From: Product Safety Office
Subject: Important Product Safety Notice - Action Required – ADS Orifice Issue (Limited Circulation)

As a responsible manufacturer for fire safety products, product safety is always our first priority. Given their life safety and property protection function, the performance and reliability of our products in your end-use applications are of paramount importance to us.

You are receiving this Safety Notice 2023-01S because, according to our records, you have purchased an ADS System using either 3M™ Novec™ 1230 Fire Protection Fluid or FM-200™/HFC-227ea where we have identified a potential safety issue with the incorrect selection of a Nitrogen orifice fitting which may potentially cause property damage, injury, or death (see Issue below). Due to this, **action is required on your part**. Please instruct your sales, design, purchasing, installation, and service personnel to read the below carefully and take the Required Actions (see below).

If you are a distributor and/or have sold the Potentially Affected Product (see below) to an end-customer, then we respectfully ask that you communicate this information to the potentially affected end-user as described in the instructions provided below.

Issue

KFS discovered an issue regarding the ADS flow calculation software when it is run using metric units. In the metric mode, although the software tool operates correctly and provides the pipe, nozzles, and orifice sizes, in the reports section, the parts list may incorrectly specify the smallest Nitrogen orifice. While the smallest orifice fitting may be appropriate as per the calculation in a specific installation, in those installed systems where a larger orifice is required, the presence of the smaller orifice has the potential to prolong the total discharge duration beyond the NFPA 2001 code mandated upper limit of 10 seconds.



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Potentially Affected Products

The below table lists the products that are potentially affected with corresponding ship/date code.

Table 1. List of Potentially Affected Part Numbers

Part Number	Description	Production Date Range
90-194129-107	¾ inch Orifice Fitting for FM-200 5.74 mm ²	May 5, 2018 – Oct 1, 2022
85-194129-107	¾ inch Orifice Fitting for Novec 1230 5.74 mm ²	May 5, 2018 – Oct 1, 2022

Implemented Actions

Kidde Fire Systems has taken all steps necessary to correct this issue.

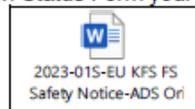
- On October 1, 2022, KFS released the corrected software v4.00.977.492

Next Steps

Review your records to identify the location, quantity, and Required Actions for the Potentially Affected Products you received from Kidde Fire Systems. If you require your purchase history for the affected period from Kidde, please contact Technical Support at kidde_techsupport@carrier.com

1. Notify the affected end-customers of the Issue using the notification attached below within **30 days** of receiving this Safety Notice. Please keep records of these transmittals so you can report in the Reply to Us Form / Remediation Status Form your completion of this step.

Attachment



2. Visit the affected sites to perform the Required Field Actions in accordance with the Required Actions below.
3. At the site, perform the remediation on the Potentially Affected Product, as detailed in the Required Field Actions.
4. Complete the Reply to Us Form / Remediation Status Form questions below and provide status of the Required Actions in the Reply to Us Form / Remediation Status for our mutual record keeping purposes.

Additional Instructions, if applicable:

5. Do NOT reuse the suspect parts or assemblies that are recovered from any sites in as-is condition. Please discard the product.
6. Systems should be serviced, tested and remediated only by authorized Kidde Fire Systems distributors and partners.
7. If you need assistance to inspect, service or remediate your system, please contact Kidde Fire Systems for technical assistance. See contact details.



Required Actions

Please complete the steps below:

1. For the applications you have identified that use the affected part number(s), review all performed ADS calculations where metric units were used.
2. Open the .fc4 file
 - a) Click on the "Calculate" tab and then select "View Most Recent Results"
 - b) Locate and identify the orifice size at "Selected N2 orifice area:" notate this size
 - c) Click on the "Reports" tab and select "Parts List Report"
 - d) Locate and identify the orifice size at "Nitrogen Restrictor Plate:" notate this size
 - e) Compare the size of the orifice area shown in step 2b) with step 2d) and ensure that they match
3. If the orifice sizes match
 - a) No additional corrective actions are required
 - b) Download the latest flow calculation software version located on the Kidde Fire Systems extranet page for future applications
4. If there is a mismatch, perform the following:
 - a) Close both the Parts List Report and the View Most Recent Results page
 - b) Click on the "Calculate" tab and then select "Perform Main Calculation"
 - c) When prompted you may save the report
 - d) When prompted under "Calculate Options," select "Use the Current Nozzles and Pipe"
 - e) Once the calculation is finished click on the "System Acceptance Report"
 - f) If "ERROR – Maximum discharge time exceeded. Maximum 10.0 seconds" shows on the System Acceptance Report, an incorrect Nitrogen orifice size may be in this system, and it must be checked. To clear the ERROR and confirm the correct orifice size:
 - 1) Click on the "Input" tab and select "Cylinder Selection"
 - 2) Enter the orifice size notated in step 2b "Selected N2 orifice area:" into the "Driver Orifice Area" using the pull-down selection
 - 3) Close the Cylinder Selection screen and Click on the "Calculate" tab and then select "Perform Main Calculation"
 - 4) When prompted you may save the report
 - 5) When prompted under "Calculate Options," select "Use the Current Nozzles and Pipe"
 - g) Once the calculation is finished click on the "System Acceptance Report," the ERROR should be clear. SAVE this new flow calculation report
5. Download the latest flow calculation software version located on the Kidde Fire Systems extranet page
6. Contact KFS Customer Service to immediately order a free replacement Nitrogen orifice assembly using the part number identified in the new Parts List Report
 - a) Deploy your qualified Kidde trained technician to replace the incorrect orifice assembly at the earliest opportunity following steps 1-15
 - 1) Inform the authorities that you will be replacing the orifice fitting.
 - 2) Use personal protection gear (helmet, safety glasses, safety shoes and gloves).
 - 3) Disconnect the electrical control head from the nitrogen driver for each affected cylinder assembly.
 - 4) Confirm that a trouble signal is sent to the Fire System Control Panel (FSCP) and the panel triggers an alarm
 - 5) By using suitable spanners, unscrew the nitrogen transfer hose(s) from the discharge head(s) mounted at the nitrogen driver(s).
 - 6) Remove the nitrogen transfer hose(s) from the nitrogen transfer fitting (single or 2 driver)
 - 7) Unscrew and remove the actuation hose from the transfer fitting leading to the 'Tee' fitting at the top of the pressure operated control head on the agent cylinder.
 - 8) Unscrew the single or 2 driver transfer fitting.
 - 9) Remove the 3/4" nipple for the 2 driver arrangement only.
 - 10) By using two spanners, one to hold the check diffuser and the other to hold the orifice fitting, unscrew and remove the orifice fitting.



- 11) Install the new orifice fitting supplied.
- 12) Proceed with the installation of all the dismantled components as instructed in the Installation chapter of the DIOM manual.
- 13) Lastly install the electrical control head on the nitrogen driver.
- 14) Ensure that the trouble signal is cleared from FSCP and the alarm signal has stopped.
- 15) Recheck the system

Once complete, re-commission the system as instructed in the DIOM manual

Questions or Concerns

Thank you for your understanding. These measures cannot be conducted successfully without you. The Customer Service team at Kidde Fire Systems and your responsible Technical Services specialists at (866) 287-2531 or kidde_techsupport@carrier.com will be glad to help you with any questions that may arise.

REPLY TO US

In order to ensure that the Required Actions are understood and performed we require you to:

- 1. Fill in the information below and submit this document using the button below within **2 weeks** of this letter.
- 2. Revert back to Kidde Fire Systems upon completion of mandatory field actions.

I hereby confirm that as a customer of Kidde Fire Systems

<input type="checkbox"/>	I have received, read and understand the contents of this Safety Notice 2023-01S and will flow down or have already flowed down the Safety Notice to sales, design, purchasing, installation and service personnel to read the below carefully and take the Required Actions.
<input type="checkbox"/>	I will perform the Required Actions to remediate the Potentially Affected Product and will regularly report back on our status and progress, including total number of upgrades carried out using the Remediation Status Form
<input type="checkbox"/>	I do not wish to participate in this Remediation Program, and I do not require Kidde Fire Systems provide me with the necessary configuration or replacement to keep my system in line with safety standards. Please explain why:
<input type="checkbox"/>	I require remediation units and will be contacting Customer Service with one or more "no charge" purchase order(s) referencing the above Safety Notice with the quantities required.
<input type="checkbox"/>	I intend to communicate this Safety Notice to my potential affected end-customers, and to ensure that the required field actions are performed.

Full Name	Date	Signature
Company Name	Company Account Number	



Remediation Status Form

If Kidde Fire Systems has not received your written response to this Safety Notice within the prescribed time, we will interpret your silence to mean that you have declined to perform the required remediation, and instead unconditionally agree to fully defend and indemnify Kidde Fire Systems and its affiliated entities from any and all claims, damages, injuries, deaths, lawsuits, fines, costs and fees, including but not limited to attorney's fees, arising out of the failure to remediate product as described in previously referenced documentation and this letter.

Please fill in your information

Date:			
Company Name:			
Company Account Number:			
Invoicing Address:			
Name of person completing this form:			
Title of person completing this form:			
Phone:		Email:	

Please answer the following questions:

I hereby confirm that: I have identified ___affected units and completed the field action on ___ units

1. Our current remediation status is as follows (check most applicable answer):

<input type="checkbox"/> End user(s) all have been notified for sites not remediated.
<input type="checkbox"/> All units have been remediated
<input type="checkbox"/> All units are no longer in service
<input type="checkbox"/> All units still require remediation
<input type="checkbox"/> Some units still require remediation, balance are no longer in service
<input type="checkbox"/> Some units still require remediation

2. If units still require remediation, our plan to complete the action is (check most applicable answer):

<input type="checkbox"/> No plan or unable to remediate
<input type="checkbox"/> Balance to be remediated in the next 6 months
<input type="checkbox"/> Balance to be remediated in the next 12 months
<input type="checkbox"/> Not applicable
<input type="checkbox"/> Other, please detail:

3. We have either no plans or are unable to remediate due to the following reasons (check all that apply):

<input type="checkbox"/> We do not have service contract(s) with the end users
<input type="checkbox"/> No access to site(s)
<input type="checkbox"/> End user(s) has/have declined access
<input type="checkbox"/> Other, please detail:

4. For sites not remediated:

<input type="checkbox"/> All End user(s) have been notified
<input type="checkbox"/> Some End user(s) have not been notified, please explain:
<input type="checkbox"/> No End user(s) have been notified, please explain:

Please print the Designated Officer name and signature below:

Print Name	Signature
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In a week's time, we will send you the Remediation Form via DocuSign to fill out. You can also choose to email the completed document to kidde_techsupport@carrier.com. If you have any questions or concerns, please contact Technical Services at (866) 287-2531 or kidde_techsupport@carrier.com.



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