



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

MAR 18 2019

Austin Ruf
Mechanical Engineer
Chemring Energetic Devices
2525 Curtiss Street
Downers Grove, IL 60515

Reference No. 18-0115

Dear Mr. Ruf:

This letter is in response to your August 6, 2018, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the packing instructions included in the explosive competent authority approval (EX approval) EX2012050060.

We have paraphrased and answered your questions as follows:

- Q1. You ask whether the HMR define the word "shunt" as used in EX approval EX2012050060.
- A1. The answer is no. The HMR does not define the word "shunt."
- Q2. You ask whether the word "shunt" implies a physical pin-to-pin connection, i.e. a shorting spring or clip.
- A2. The answer is yes. Although the HMR does not define "shunt," it is the opinion of this Office that the packing instruction in EX2012050060 requires the use of a physical connection that ensures that all parts of the device that are connected to the bridgewire are maintained at the same electrical potential to prevent the flow of any extraneous current.
- Q3. You ask whether the use of a Faraday cap or RF cap is sufficient to be in compliance with EX2012050060.

- A3. The answer is no. Faraday or RF caps do not provide protection against the build-up of a difference in electrical potential between the leg wires. Additionally, any offeror who wishes to modify the design of an approved explosive device must seek a modification of the EX approval. Each modification request will be considered on a case-by-case basis.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dirk Der Kinderen', written over the printed name.

Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

Patrick
18-0115

January, Ikeya CTR (PHMSA)

From: Foster, Glenn (PHMSA)
Sent: Wednesday, August 08, 2018 2:52 PM
To: Dodd, Alice (PHMSA); January, Ikeya CTR (PHMSA)
Cc: DerKinderen, Dirk (PHMSA); Kelley, Shane (PHMSA); Nickels, Matthew (PHMSA)
Subject: FW: LCA Clarification -- Chemring Energetic Devices
Attachments: 6187300 LCA.PDF

Alice and Ikeya,

Please have the attached logged in as a request for a Letter of Interpretation and assign to a Specialist.

Thank,
Glenn

Sent with Good (www.good.com)

From: Kelley, Shane (PHMSA)
Sent: Wednesday, August 8, 2018 2:48:18 PM
To: Fink, William (PHMSA)
Cc: Vos, Brian (PHMSA); Singh, Harpreet (PHMSA); Foster, Glenn (PHMSA)
Subject: Re: LCA Clarification -- Chemring Energetic Devices

Adding Glenn,

Glenn can we please log this and work with our colleagues in 20 and 30 on a response?

thanks

From: Fink, William (PHMSA) <william.fink@dot.gov>
Sent: Wednesday, August 8, 2018 2:17 PM
To: Kelley, Shane (PHMSA)
Cc: Vos, Brian (PHMSA); Singh, Harpreet (PHMSA)
Subject: FW: LCA Clarification -- Chemring Energetic Devices

Shane,

Can we get an interp on this?

Bill Fink

From: Austin Ruf [<mailto:aruf@ced.us.com>]
Sent: Monday, August 6, 2018 3:12 PM

To: Fink, William (PHMSA) <William.Fink@dot.gov>
Subject: LCA Clarification -- Chemring Energetic Devices

Good Afternoon William,

My colleague, Ryan Delaney, referred me to you as his point of contact at the DOT. I'm hoping that you can provide clarification on a Letter of Competent Authority.

Specifically, I'm wondering if there is an official definition of the word 'shunt' used on the second page of the attached LCA. Does a shunt imply a physical pin to pin connection i.e. a shorting spring / clip? Is a Faraday / RF Cap, which electrically isolates the pins, sufficient to be in compliance to the LCA?

I look forward to hearing from you.

Best,

Austin Ruf | Mechanical Engineer
Chemring Energetic Devices
(630) 969-0620 x1366

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Thank you.



U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

The US Department of Transportation
Competent Authority for the United States

East Building, PH-32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20580

DEC
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CLASSIFICATION OF EXPLOSIVES
SEVENTH REVISION

Based upon a request by Pacific Scientific, 7073 W Willis Road, Chandler, AZ 85226, United States, the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

U.N. PROPER SHIPPING NAME AND NUMBER:

Cartridges, power device, UN0323

U.N. CLASSIFICATION CODE: 1.4S

REFERENCE NUMBER

EX2012050060

PRODUCT DESIGNATION/PART NUMBER

Dual BW Electric Initiators:
(P/N 103377-3, P/N 103377-32, P/N 103377-43,
P/N 103377-106, P/N 103377-130,
P/N 103377-351, P/N 103377-422,
P/N 103377-429, P/N 103377-449,
P/N 103377-451, P/N 103377-500,
P/N 103377-5 (103377-5MAV),
P/N 103377-32SIM,
P/N 103377-43BNDX, P/N 103377-106TCM,
P/N 103377-140, P/N 103377-359,
P/N 103377-423, P/N 103377-432, P/N 103377-12,
P/N 103377-32TCM, P/N 103377-43NICP,
P/N 103377-108, P/N 103377-190,
P/N 103377-415, P/N 103377-424,
P/N 103377-433, P/N 103377-12WEC,
P/N 103377-32UPC, P/N 103377-81, P/N 103377-
122, P/N 103377-191,
P/N 103377-416, P/N 103377-425,
P/N 103377-434, P/N 103377-21,
P/N 103377-32UTC, P/N 103377-105,
P/N 103377-129, P/N 103377-212,
P/N 103377-421, P/N 103377-421ALT,
P/N 103377-426, P/N 103377-438,
P/N 103377-32COL, P/N 103377-160 and
P/N 103377-160SM3)

223489
CED 4

NOTES: This classification is only valid when each cartridge is shunted and fitted with a plastic protective cap on the output end, and when packaged as follows:

Inner Packaging - Bags, heat-sealed anti-static plastic, each containing a single unit.

Outer Packaging - UN 4G fiberboard box, each containing no more than four hundred (400) inner packagings with cushioning material.

This classification is based upon testing which meets the UN 6(d) test criteria.

This approval as revised supersedes all previous versions.

DATED: 07/29/2015

Magdy El-Sibaie

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety