



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 24, 2025

Mr. Frank Lopez
Regulatory Compliance Specialist
Council on Safe Transportation of Hazardous Articles (COSTHA)
101 Ridge Street, Suite I
Glens Falls, NY 12801

Reference No. 24-0072

Dear Mr. Lopez:

This letter is in response to your August 19, 2024, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to an article. Specifically, you ask about a valve for internal combustion engines (e.g., automobile or aircraft engines) containing a small quantity of sodium or potassium sodium alloy encapsulated and sealed within the valve cavity by welding.

We have paraphrased and answered your questions as follows:

Q1. Is the guidance issued in an August 20, 2002, letter of interpretation (LOI) under Reference No. 02-0159 still valid?

A1. Yes. The guidance issued in an August 20, 2002, LOI under Reference No. 02-0159 is still valid. It remains our determination that 1.6 grams or less of sodium or potassium sodium alloy encapsulated and sealed by welding within a valve for an internal combustion engine is in a quantity and form that does not pose a hazard in transportation and—therefore—these articles are not subject to the HMR. This determination does not apply to valves containing more than 1.6 grams of sodium or potassium sodium alloy, which must be shipped in conformance with all applicable requirements of the HMR.

Q2. Are engine exhaust valves containing 1.6 grams or less of sodium or potassium sodium alloy encapsulated and sealed by welding within a valve for an internal combustion engine—as described in LOI Reference No. 02-0159—subject to the HMR when offered for carriage by any mode of transportation to, from, or within the United States?

A2. No, see answer A1. It should be noted that when the engine exhaust valves are transported outside the United States, they may be subject to the regulations of the country to, from, or through which they are being transported. Other international regulations may also apply, including the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) or the International Maritime Dangerous Goods (IMDG) Code.

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

Sincerely,

A handwritten signature in blue ink that reads "T. Glenn Foster". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

From: [INFOCNTR \(PHMSA\)](#)
To: [Dodd, Alice \(PHMSA\)](#)
Cc: [Hazmat Interps](#)
Subject: FW: COSTHA Letter of Interpretation to Confirm PHMSA LOI 02-0159 Applicability
Date: Wednesday, August 21, 2024 9:00:32 AM
Attachments: [image001.png](#)
[COSTHA Requesting Confirmation of LOI 02-0159.pdf](#)

Hello Alice,

Please see the attached interpretation request. Let us know if you need anything.

Sincerely,
Janaye

From: L'Gena Shaffer <Lgena@costha.com>
Sent: Monday, August 19, 2024 11:48 AM
To: Kelley, Shane (PHMSA) <shane.kelley@dot.gov>
Cc: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>; L'Gena Shaffer <Lgena@costha.com>; Chris Yakush <Chris@costha.com>; Tom Ferguson <Tom@costha.com>; Frank Lopez <frank@costha.com>; Anne Barry <anne@costha.com>
Subject: COSTHA Letter of Interpretation to Confirm PHMSA LOI 02-0159 Applicability

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Good morning Shane!

Attached please find COSTHA's request to confirm the interpretation of LOI [02-0159](#), determining that an article, such as a valve for internal combustion engines containing a small quantity of sodium or potassium sodium alloy encapsulated and sealed within the valve, is not subject to the requirements of the Hazardous Materials Regulations.

We appreciate your review and response.

Please let me know if you have any questions.

Best,
L'Gena Shaffer, CDGP
Director, Regulatory Compliance
COSTHA
<http://www.costha.com>
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This information is intended to provide interpretative and authoritative information in regard to the subject matter covered as a service to our clients and has been answered to the best of our ability based on the information provided to us. We do not guarantee the accuracy or completeness of any such interpretation or information, however, nor do we warrant that compliance with any advice we provide will guarantee compliance with any legal or regulatory requirements. Our statements or opinions do not convey legal interpretation and government authorities or legal counsel should be contacted for such a response.



Council on Safe Transportation of Hazardous Articles

August 19, 2024

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Mr. Shane Kelley
Director, Standards and Rulemaking Division
Pipeline and Hazardous Materials Safety Administration
Attn: PHH-10
U.S. Department of Transportation
East Building, 1200 New Jersey Ave., SE
Washington, D.C. 20590-0001
Submitted: Via Email
cc: infocntr@dot.gov

Dear Mr. Kelley,

COSTHA would like to request a formal letter of interpretation regarding the standing interpretation of Letter of Interpretation (LOI) 02-0159. Specifically, we would like to confirm that the interpretation provided by the LOI, determining that an article, such as a valve for internal combustion engines containing a small quantity of sodium or potassium sodium alloy encapsulated and sealed within the valve, is not subject to the Hazardous Materials Regulations.

COSTHA is a not-for-profit organization representing manufacturers, shippers, distributors, carriers, freight forwarders, trainers, packaging manufacturers and other associated with the hazardous materials transportation industry. In addition to promoting regulatory compliance and safety in hazardous materials transportation, COSTHA assists its members and the public in evaluating the practicality and efficacy of laws, rules and regulations for the safe transportation and distribution of hazardous materials. COSTHA is also pleased to have 17 air carriers included in our membership.

COSTHA requests this interpretation to confirm our understanding that an article such as a valve for internal combustion engines containing a small quantity of sodium or potassium sodium alloy that is encapsulated and sealed within the valve is not subject to the regulations and does not require a Competent Authority Approval to be transported.

Letter of Interpretation 02-0159 states:

Based on the information provided, it is our determination that 1.6 grams or less of sodium or potassium sodium alloy encapsulated and sealed by welding within a valve for an internal combustion engine is in a quantity and form that does not pose a hazard in transportation and, therefore, these articles are not subject to the HMR. This determination does not apply to valves containing more than 1.6 grams of sodium or potassium sodium alloy, which must be shipped in conformance with all applicable requirements of the HMR.

Council on Safe Transportation of Hazardous Articles

101 Ridge Street, Suite I, Glens Falls, NY 12801 • Phone: (518)761-0389 • Fax: (518)792-7781 • www.costha.com

Background

A COSTHA member has provided the following recent developments occurring in Germany.

In 2020, PHMSA's biennial international harmonization ruling under docket HM-2150 adopted new UN numbers for several Articles, n.o.s. proper shipping names, including UN3543, Articles containing a substance which in contact with water emits flammable gases.

An automaker supplier from Germany, sought and received a competent authority approval from BAM, assigning the valves to the new UN3543 classification for purposes of maritime transport.

Subsequently, on March 11, 2024, the automaker received an analogous competent authority approval from BAM for the subject valves to be transported under UN3543. Although an exemption from dangerous goods regulations was not sought originally, the supplier has now indicated they are pursuing exempt status with BAM. The automaker has been shipping these articles for over 20 years without incident, and there are likewise no known safety incidents across the US automotive industry.

Classification of these articles under Division 4.3 would trigger placarding under Table 1 of 49CFR §172.504. Placarding as Division 4.3 would render carriers unwilling to accept and/or unauthorized to carry these valves, after having transported them for over 20+ years without incident or regulation.

Further, such requirements would unnecessarily apply to each US automobile manufacturer using such valves, triggering the need for additional competent authority approvals to offer these articles for shipment. The 49 CFR states in Special Provisions 131 and 391, and Packaging Instruction § 173.214 for entry UN3543.

Special Provision 131 This material may not be offered for transportation unless approved by the Associate Administrator.

Special Provision 391 Except for articles being transported by motor vehicle as a material of trade in accordance with § 173.6 of this subchapter, articles containing hazardous materials of Division 2.3, or Division 4.2, or Division 4.3, or Division 5.1, or Division 5.2, or Division 6.1 (substances with an inhalation toxicity of Packing Group I) and articles containing more than one of the following hazards: (1) Gases of Class 2; (2) Liquid desensitized explosives of Class 3; or (3) Self-reactive substances and solid desensitized explosives of Division 4.1, may only be offered for transportation and transported under conditions approved by the Associate Administrator.

ICAO/IATA shows entry UN3543 as forbidden on aircraft.

The IMDG entry states to see para 2.0.6.6 and Special Provision 391

2.0.6.6 Subsidiary hazards shall be representative of the primary hazard posed by the other dangerous goods contained within the article. When only one dangerous good is present in the article, the subsidiary hazard(s), if any, shall be the subsidiary hazard(s) identified in column 4 of the Dangerous Goods List. If the article contains more than one dangerous good and these could react dangerously with one another during transport, each of the dangerous goods shall be enclosed separately (see 4;1.1.6).

Special Provision 391 Articles containing dangerous goods of class 2.3, or class 4.2, or class 4.3, or class 5.1, or class 5.2 or class 6.1 for substances of inhalation toxicity

requiring packing group I and articles containing more than one of the hazards listed in 2.0.3.4.2 to 2.0.3.4.4 shall be transported under conditions approved by the competent authority.

COSTHA requests affirmation that LOI 02-0159 is still valid determining that engine exhaust valves containing less than 1.6 g of sodium metal are not subject to the HMR when offered for carriage by any mode of transportation to, from, or within the United States.

COSTHA appreciates your review of this interpretation request, and we look forward to hearing from you soon. Please contact us with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Lopez', is written over a light gray rectangular background.

Frank Lopez
Regulatory Compliance Specialist
COSTHA