

August 2024



# NAVAL ORDNANCE SAFETY & SECURITY ACTIVITY

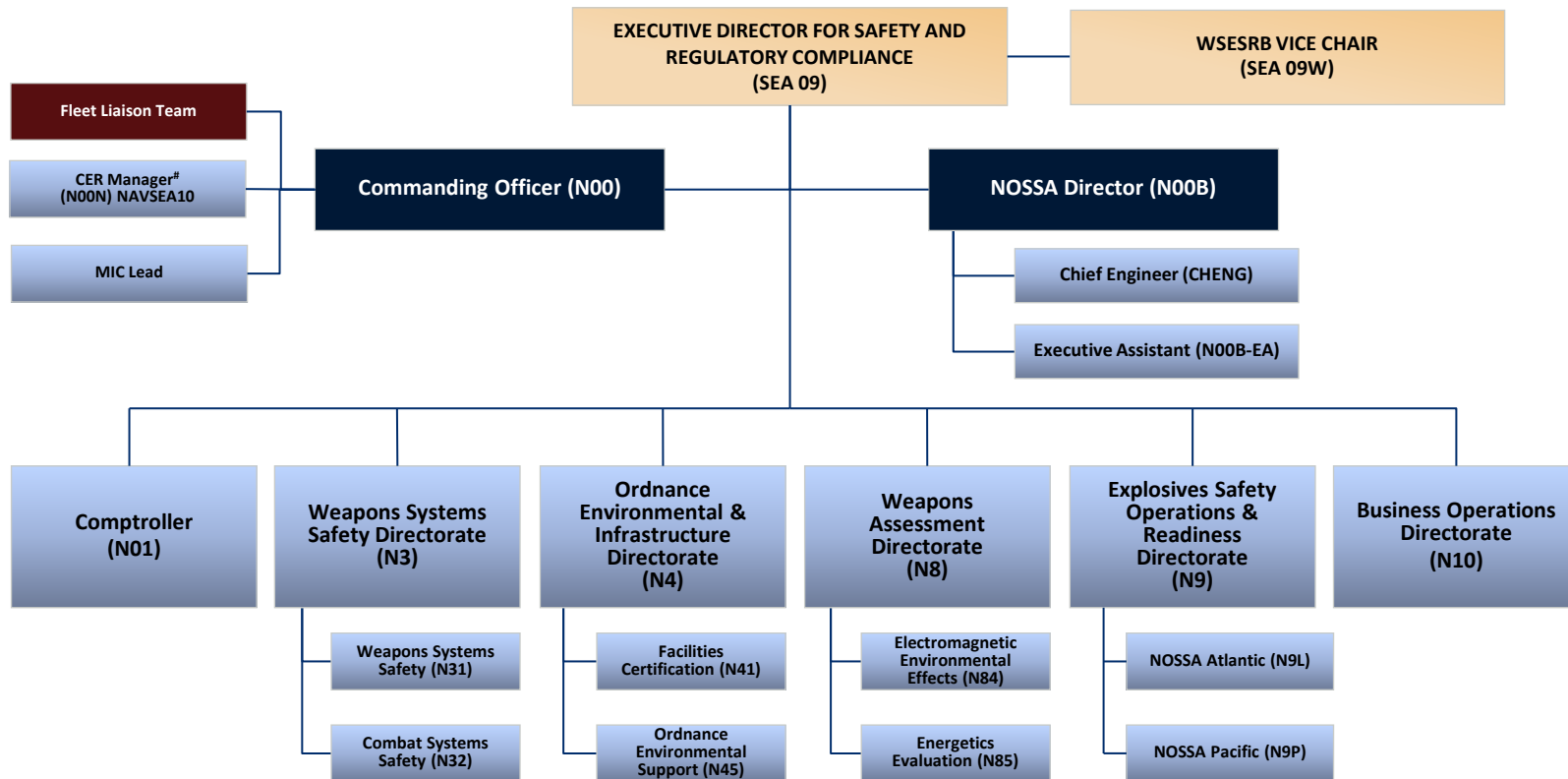
## HAZARD CLASSIFICATION

CAD/PAD Technical Exchange Workshop  
Ed Walseman  
NOSSA



**DISTRIBUTION STATEMENT A.** Approved for public release. Distribution is unlimited.

# NOSSA Organizational Alignment



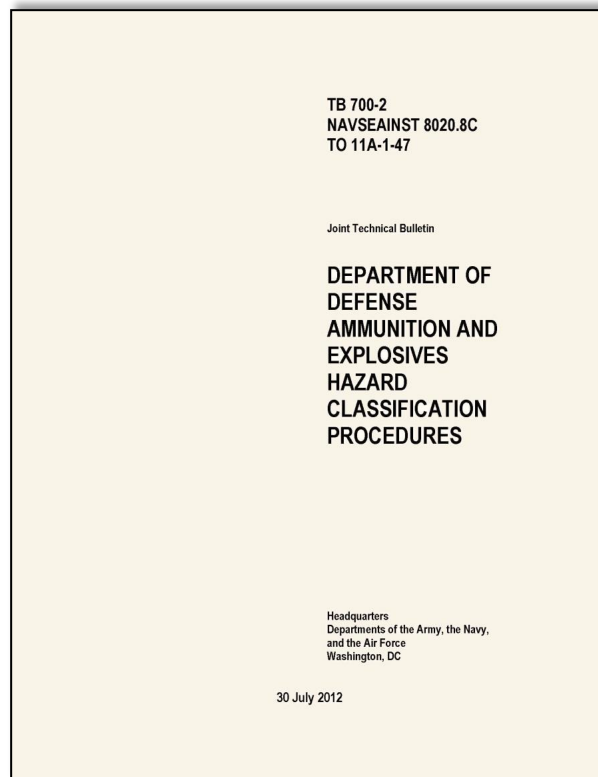
# Hazard Classification

- DoD Procedures
- DoD, DOT, and Foreign
- Lithium Batteries
- SSEC



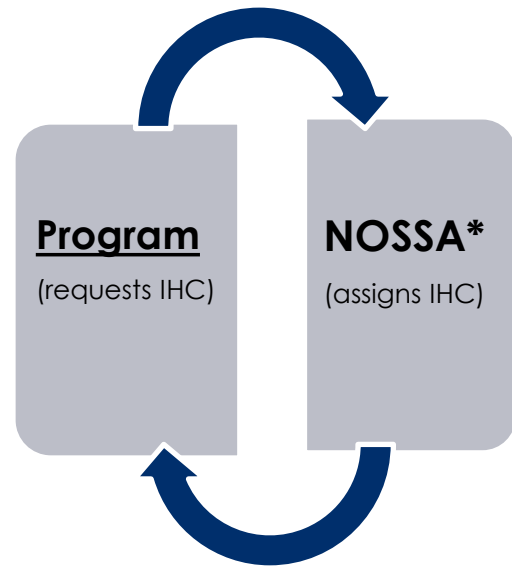
# Hazard Classification – DoD Procedures

- NAVSEAINST 8020.8C (Joint Service)
  - Applies to:
    - explosives and articles containing explosives
    - the transportation and storage configuration
  - Transportation
    - Code of Federal Regulations, Title 49
    - UN Recommendations on the Transport of Dangerous Goods
  - Storage
    - NATO
      - STANAG No. 4123
      - AASTP-3



# Hazard Classification – DoD Procedures - Interim

- For RDT&E AE
- Approved by Service
  - Authority for transport granted by DOT-SP 15448
- Assigned in 30 Days (Navy)
  - With appropriate technical data
- Based on material tests and evaluation
- Most have 1 year expiration date
  - Navy storage exclusion
- IHC paperwork must accompany shipment
- Commercial (CONUS)/DoD Transportation and DoD Storage



\*Army/Air Force Offices

# Hazard Classification – DoD Procedures - Interim



SAMPLE – NOT FOR USE

DEPARTMENT OF THE NAVY  
NAVAL ORDNANCE SAFETY & SECURITY ACTIVITY  
FARRAGUT HALL  
3817 STRAUSS AVENUE, SUITE 108  
INDIAN HEAD, MD 20640-5151

8020  
Ser N85B-XXXX/XXXX  
10 Jul 22

From: Commanding Officer, Naval Ordnance Safety and Security Activity  
To: XXXXXXXXXXXXXXXXXXXX

Subj: INTERIM HAZARD CLASSIFICATIONS FOR AIRCRAFT FIRE EXTINGUISHER CARTRIDGE

Ref: (a) NSWC IHEODTD ltr XXXX of 18 Mar 18  
(b) DOT-SP 15448 (latest version)  
(c) DOT-SP 15448 Authorization Letter (current)  
(d) TB 700-2 (NAVSEAINST 8020.8C)  
(e) NAVSEAINST 9310.1  
(f) 49 CFR

1. As requested by reference (a), the following interim hazard classifications are assigned:

a. Nomenclature: Cartridge, Aircraft Fire Extinguisher  
Dwg. No. XXXXXXXX

(1) DOD Hazard Classification:	1.4C
(2) DOT Hazard Classification:	1.4C
(3) DOT Label:	Explosive 1.4C
(4) UN Number:	0276
(5) Proper Shipping Name:	CARTRIDGES, POWER DEVICE
(6) Net Explosive Weight:	0.001 lb (0.45 g)

NOTE: This cartridge must be packaged one M2A1 ammunition container.

2. This interim hazard classification expires **31 July 2023**. A copy of this letter and references (b) and (c) must accompany each shipment.

3. This interim hazard classification is applicable to the packaged configurations. Handling of an unpackaged item shall be in accordance with operational procedures.

4. This classification is assigned in accordance with reference (d) as authorized by reference (b). It is granted for the shipment of explosives and ammunition on behalf of the Department of Defense (DOD). It is not applicable for shipment of materials by private contractors for non-DOD contracts. Should final hazard classification be needed for this or any other items, consult the requirements of reference (d). Any change to an item design or packaging requires a reexamination by the undersigned.

SAMPLE – NOT FOR USE

Subj: INTERIM HAZARD CLASSIFICATIONS FOR AIRCRAFT FIRE EXTINGUISHER CARTRIDGE

5. Items that contain lithium batteries and are intended for use, storage, or transportation on Navy facilities, submarines, ships, vessels, or aircraft must be reviewed in accordance with reference (e). For additional information regarding this issue, please contact:

XXXXXXXXXX  
XXXXXXXXXXXXXXXXXX  
Email: XXXXXXXXXXXXXXXXXXXX  
DSN XXXXXXXX or commercial XXXXXXXX

6. Consult reference (b) for specific exemptions from the hazardous material requirements of reference (f). This classification does not relieve the shipper from complying with any other requirements of reference (f), including, but not limited to, packaging, electromagnetic radiation, and electrostatic requirements. For information regarding these issues, please contact the following persons:

Packaging:  
XXXXXXXXXX  
XXXXXXXXXXXXXXXXXX  
Email: XXXXXXXXXXXXXXXXXXXX  
DSN XXXXXXXX or commercial XXXXXXXX

Hazards of Electromagnetic Radiation to Ordnance (HERO):

XXXXXXXXXX  
XXXXXXXXXXXXXXXXXX  
Email: XXXXXXXXXXXXXXXXXXXX  
DSN XXXXXXXX or commercial XXXXXXXX

Electrostatic Discharge (ESD):

XXXXXXXXXX  
XXXXXXXXXXXXXXXXXX  
Email: XXXXXXXXXXXXXXXXXXXX  
DSN XXXXXXXX or commercial XXXXXXXX

7. For further information or assistance regarding hazard classification, please contact XXXXXX on commercial XXXXXXXX, DSN XXXXXXXX, or email: XXXXXXXXXXXX.

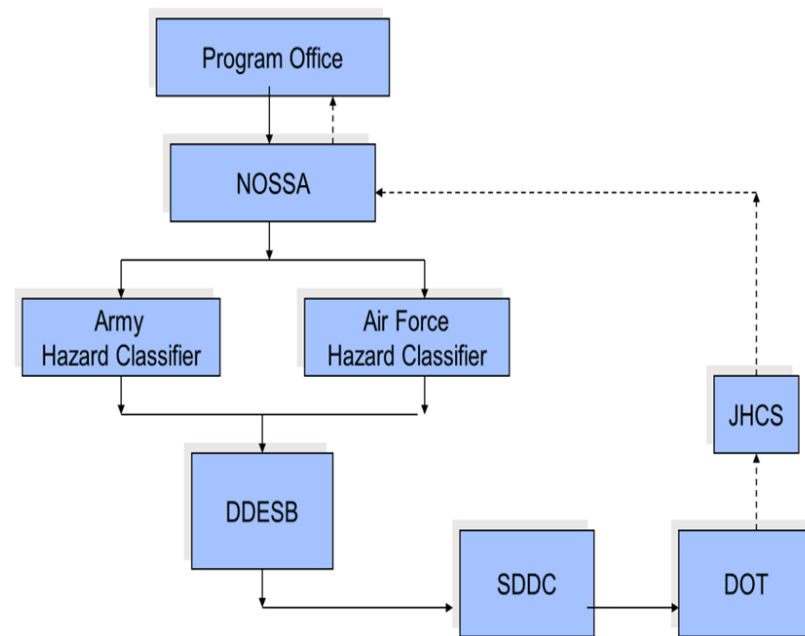
XXXXXXXXXXXXXXXXXX  
By direction

Copy to:  
XXXXXX


Distribution Statement A

# Hazard Classification – DoD Procedures - Final

- For AE entering the DoD inventory (and their components)
- Approved by DoD/DOT
- Assigned in approximately 120 days
  - With appropriate technical data
- Based on full-scale testing on the AE
- DOT Approval (EX letter) signifies completion
- Lasts for the life of the munition
- Published in JHCS, OIS, and NAVSEA SW020-AC-SAF-010
- Transportation and Storage



# Hazard Classification – DoD Procedures - Final

  
U.S. Department  
of Transportation  
Pipeline and Hazardous  
Materials Safety Administration

East Building, PHH-24  
1200 New Jersey Avenue, Southeast  
Washington, D.C. 20590

The US Department of Transportation  
Competent Authority for the United States

**CLASSIFICATION OF EXPLOSIVES**

Based upon a request by the DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD, 4800 Mark Center Drive Suite 16E12, Alexandria, VA 22350-3606, US the following item is classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). This Classification is valid only when the item is transported or offered for transportation by, or under the direction or supervision of, a component of the U. S. Department of Defense. A copy of the application, all supporting documentation, and a copy of this Classification must be retained by the applicant and made available to DOT upon request.


**U.N. PROPER SHIPPING NAME AND NUMBER:**  
Fuzes, detonating, UN0367

**U.N. CLASSIFICATION CODE:** 1.4S

<b><u>REFERENCE NUMBER</u></b>	<b><u>PRODUCT DESIGNATION/PART NUMBER</u></b>
EX2022022348	ELECTRIC DETONATOR, NSN: 1377-01-128-6405

**NOTES:** The DDESB has certified that this classification has satisfied the UN 6(d) test requirement.  
This approval as revised supersedes all previous versions.

**DATED:** February 18, 2022



William Schoonover  
Associate Administrator for Hazardous Materials Safety

Tracking No: 2022024707 Page 1 of 1

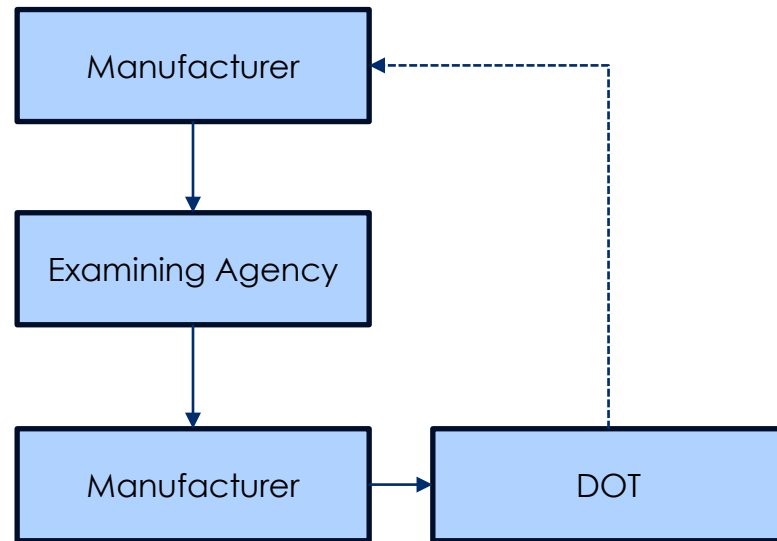
Most EX letters for DoD AE are available in the JHCS  
(<https://jhcs.deskes.dod-esb.army.mil>)

All recent EX letters are available on the DOT website  
(<https://www.phmsa.dot.gov/approvals-and-permits/hazmat/approvals-search>)




# Hazard Classification – DOT

- For all AE
- Regulations – 49 CFR (UN Recommendations)
- Approved by DOT
- DOT long range planning
- Based on full-scale testing on the AE
- DOT Approval (EX letter) signifies completion
- Typically lasts for the life of the AE
- Commercial Transportation



# Hazard Classification – Foreign

- Specific Country Regulations (based on UN recommendations)
- Most have a Competent Authority approval
- Shipment of Class 1 AE in the U.S. requires additional approvals (49 CFR 171.23(b)(4))
- Competent Authority list available on DOT website

 Health and Safety Executive

HEALTH AND SAFETY AT WORK etc ACT 1974

CARRIAGE OF DANGEROUS GOODS AND USE OF TRANSPORTABLE PRESSURE EQUIPMENT  
REGULATIONS 2009 (AS AMENDED) [CDG]

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS  
BY ROAD (ADR)

COMPETENT AUTHORITY DOCUMENT

This document is issued by the Health and Safety Executive for the purpose of assigning the classification of explosives in accordance with the above legislation.

HSE reference: SVC4382353P

Applicants Details: 1 Company Name: MARTIN BAKER AIRCRAFT COMPANY LIMITED


2 Registered Address: LOWER ROAD  
HIGHER DENHAM  
NEAR UXBRIDGE  
MIDDLESEX  
UB9 5AJ

3 Company No. 00868042

Explosives: 4 AS SHOWN ON ATTACHED SCHEDULE

Comments: 5 The explosives shown on the attached Schedule:-  
(i) have been assigned a classification pursuant to Section 2.2.1 of ADR under the provision of Regulation 25(2)(a) of CDG, and  
(ii) have been included by name and part number in the List of Classified Explosives and Fireworks.

6 The classification assigned is valid for all modes of international transport under the UN Recommendations on the Transport of Dangerous Goods, as implemented by the terms and any special conditions of the Modal Transport Regulations.

Signed: 

HM Principal Inspector of Health & Safety A person duly authorised by the Health & Safety Executive to act on its behalf.

Date: 13<sup>th</sup> November 2019

Explosives Inspectorate, Building 6S.2, Redgrave Court, Meriton Road, Buxton, L20 7HS  
Tel: 0203 028 4026 Fax: 0151 933 7758

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# Hazard Classification - Uses



# Hazard Classification – Lithium Batteries

- Transportation Requirements
  - 49 CFR 173.185
    - Testing Requirements - UN Manual of Tests and Criteria Section 38.3 (applies for transporting Li batteries and AE containing Li Batteries)
- DON Safety Requirements
  - NAVSEAINST 9310.1C (Naval Lithium Battery Safety Program)
- Lithium Rechargeable Batteries in AE
  - Regulations being updated
  - AE designed to allow removal of batteries for charging/recharging highly recommended

# Hazard Classification - SSEC

- Situation Specific Explosive Classification (SSEC) – During explosives operations other than transportation and storage, the hazard division and other associated hazard classification parameters (e.g. subdivision) that apply to an individual set of explosives configurations, within defined circumstances (e.g. explosive operations executed in accordance with Standard Operating Procedures), such that QD may be established for the operating location.
- Technical Paper No. 28 , SSEC Process - Provides **guidance** for developing SSEC process
- TP 28 in final draft form and is routing through DoD approval process

**N  
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S  
S  
A** **NAVAL  
ORDNANCE  
SAFETY &  
SECURITY  
ACTIVITY**

Ed Walseman

Hazard Classifier

gayland.e.walseman.civ@us.navy.mil

240 435-1272