



# NAVAL ORDNANCE SAFETY & SECURITY ACTIVITY

July 2022

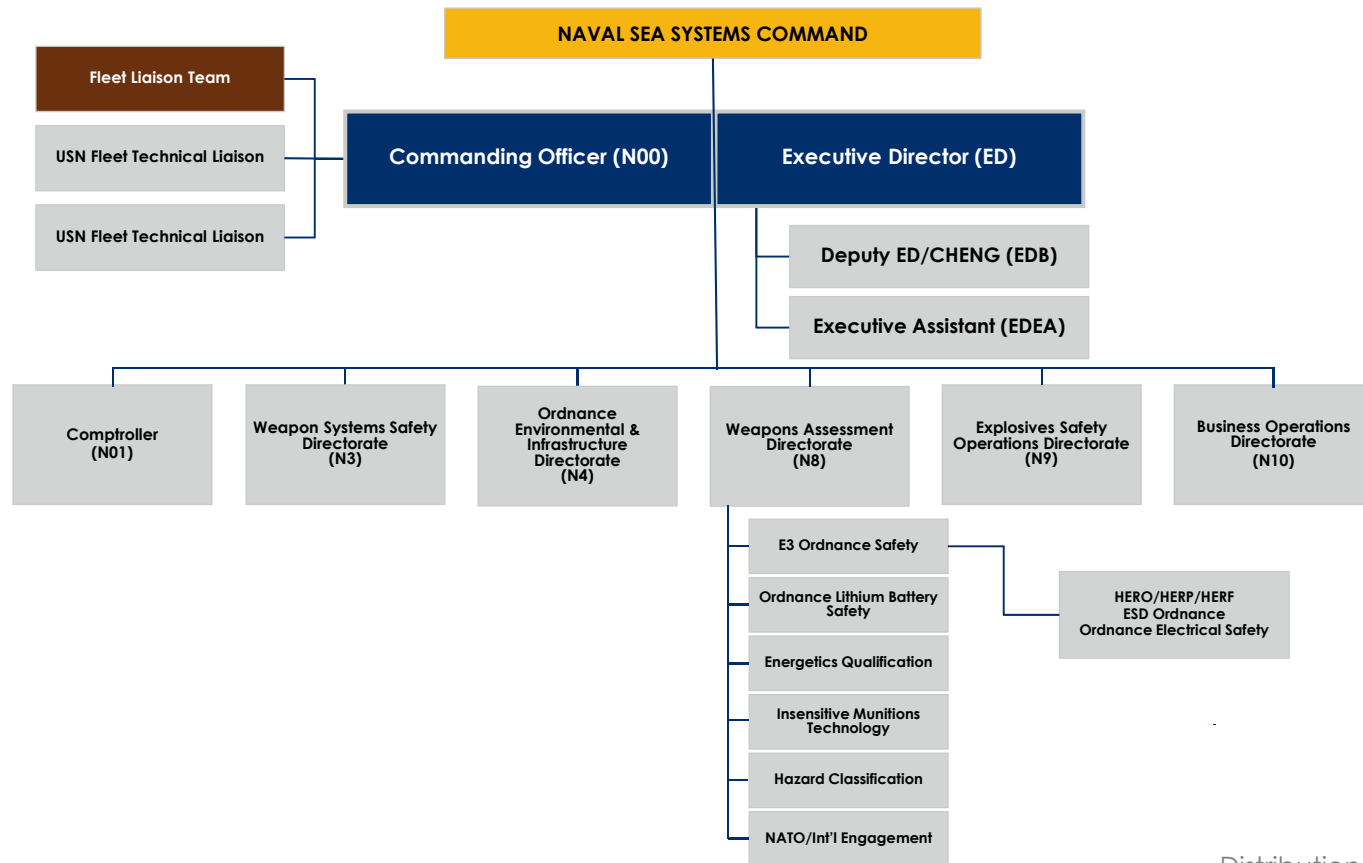
## HAZARD CLASSIFICATION

CAD/PAD Technical Exchange Workshop  
Ed Walseman  
NOSSA



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

# NOSSA Organizational Alignment



Distribution Statement A

# Hazard Classification

- Background
- Types
- UN Test 6(d)
- SSEC

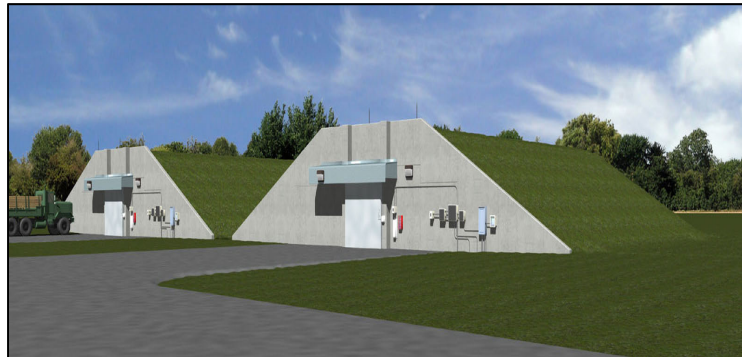


Distribution Statement A

# Hazard Classification - Background



- Identifies munitions' damage potential during transportation and storage
  - Evaluate munitions' behavior to a variety of stimuli
  - Assignment of Hazard Class/Division, Compatibility Group, Proper Shipping Name, UN #, NEW, NEWQD, MCE, and Sensitivity Group



Distribution Statement A

# Hazard Classification - Background

## Classes

- 1 - Explosives
- 2 - Gases
- 3 - Flammable Liquids
- 4 - Flammable Solids
- 5 - Oxidizing Substances & Organic Peroxides
- 6 - Toxic & Infectious Substances
- 7 - Radioactive Materials
- 8 - Corrosive Substances
- 9 - Miscellaneous Dangerous Substances and Articles

## Class 1 Divisions

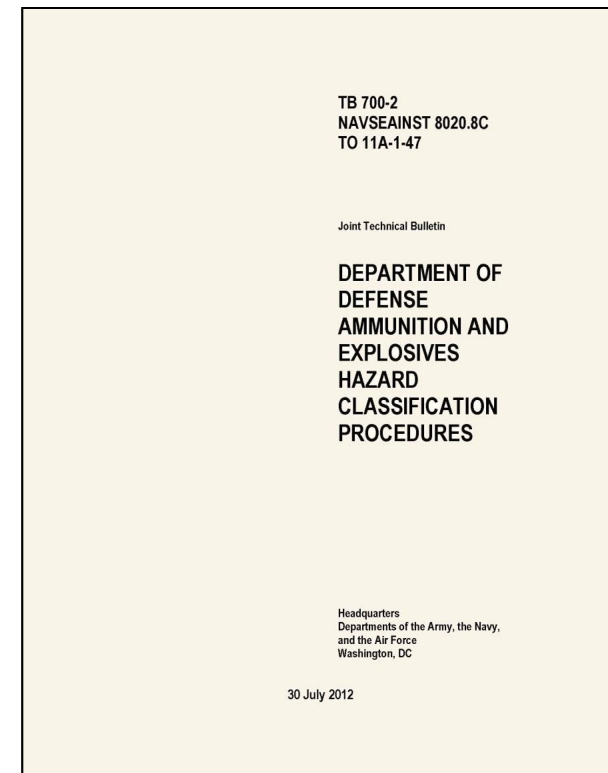
- 1.1 - Mass explosion
- 1.2 - Fragment producing
- 1.3 - Mass fire
- 1.4 - Moderate fire
- 1.5 - Very insensitive explosive substance
- 1.6 - Extremely insensitive explosive article

### Subdivisions of HD 1.2

- 1.2.1 – NEWQD > 1.6 lbs.
- 1.2.2 – NEWQD ≤ 1.6 lbs.
- 1.2.3 – Unit Risk

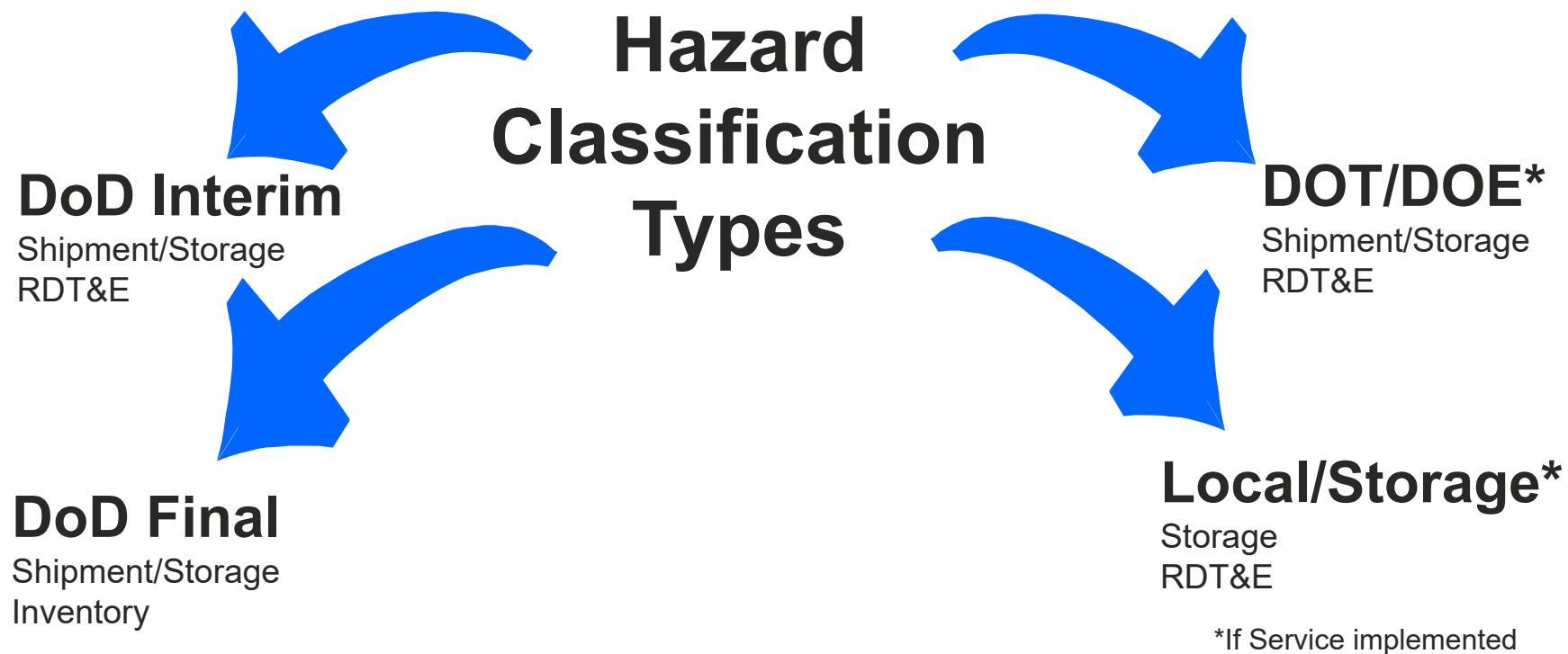
# Hazard Classification - Background

- Joint Service Regulation – NAVSEAINST 8020.8C
- Applies to 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



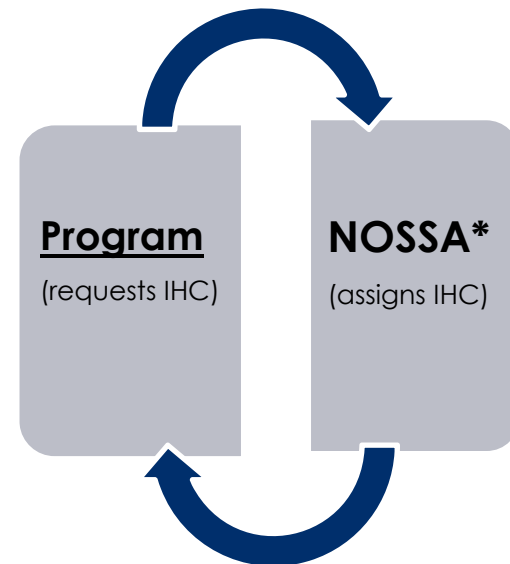
Distribution Statement A

## Hazard Classification - Types



## Hazard Classification – Types - Interim

- Authority granted by DOT via DOT-SP 15448
- Approved by Service (Navy accepts Army and Air Force IHCs)
- Requires some planning but can be assigned quickly
- Based on material tests and evaluation
- Most have 1 year expiration date (Navy storage exclusion)
- IHC paperwork must accompany shipment
- Transportation and Storage in CONUS (Can be used for OCONUS in limited scenarios)



\* Army/Air Force Offices

Distribution Statement A



# Hazard Classification – Types - 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

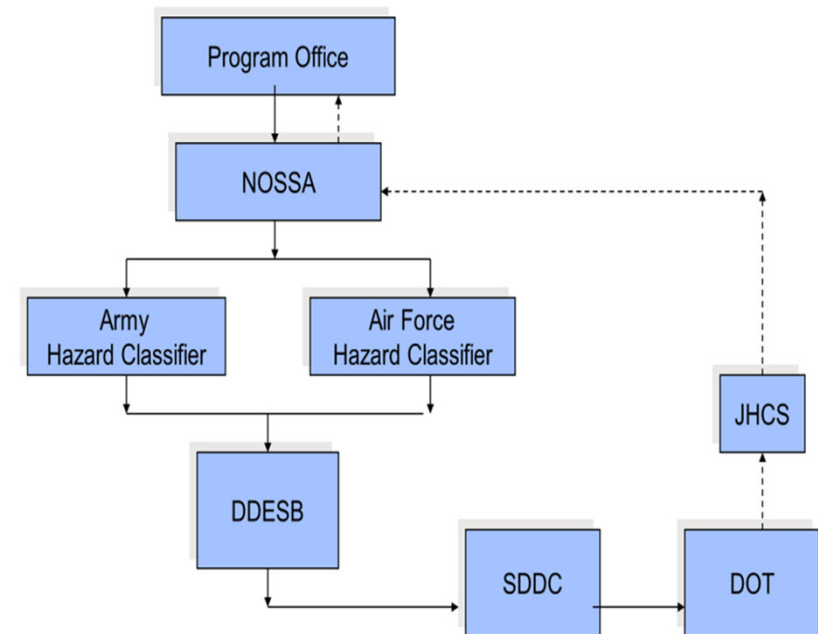
7. For further information or assistance regarding hazard classification, please contact XXXXXX on commercial XXXXXXXX, DSN XXXXXXXX, or email: XXXXXXXXXXXX.

XXXXXXXXXXXXXXXXXX  
By direction


Copy to:  
XXXXXX

## Hazard Classification – Types - Final

- Approved by DoD/DOT
- Requires long range planning
- Based on full-scale testing on the munition
- 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 DoD-wide



# Hazard Classification – Types - Final

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

The US Department of Transportation  
Competent Authority for the United States

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

**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

REFERENCE NUMBER	PRODUCT DESIGNATION/PART NUMBER
EX2022022348	ELECTRIC DETONATOR, NSN: 1377-01-128-8405

**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>)

Distribution Statement A

## Hazard Classification – UN Test 6(d)

- 2009 - UN added Test 6(d) and recommended its addition to the test protocol of 8 HD 1.4S UN numbers
- 2010-2014 - Adopted by the transportation regulations (ICAO, IMDG, 49 CFR)
  - 377 items affected in JHCS
- 2016 - UN recommended Test 6(d) be added to the test protocol of 4 more HD 1.4S UN numbers
- 2018-2021 - Adopted by the transportation regulations (ICAO, IMDG, 49 CFR)
  - 2518 items affected in JHCS

UN Number	Proper Shipping Name
0323	Cartridges, Power Device
0349	Articles, Explosive, N.O.S.
0366	Detonators for Ammunition
0367	Fuzes, Detonating
0384	Components, Explosive Train, N.O.S.
0441	Charges, Shaped
0445	Charges, Explosive, Commercial
0455	Detonators, Non-electric
0456	Detonators, Electric
0460	Charges, Bursting, Plastics Bonded
0481	Substances, Explosive, N.O.S.
0500	Detonator Assemblies, Non-Electric

## 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, NEWQD) that apply to an individual set of explosives configurations such that QD may be established for the operating location.
- SSEC definition and application still in draft
- Current proposal: Creation of a DDESB Technical Paper that provides SSEC resource information, update Defense Explosives Safety Regulations (DESR) 6055.09, SSEC execution at the DoDC level

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

Ed Walseman  
Hazard Classifier

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240 435-1272 (cell)

Distribution Statement A