

MFI

PRODUCT GUIDE



Why Choose MEI?

- ✓ 40 years in the Pyrotechnic Industry
- ✓ ISO 9001:2000 certified facility
- ✓ Current US Military supplier with on-going production
- ✓ Leading innovator of defense products worldwide
- ✓ Rapid prototyping capabilities
- ✓ Aggressive delivery schedules
- ✓ Vertically integrated production facilities
- ✓ Comprehensive on-site testing facilities
- ✓ Fully instrumented 40mm test ranges

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History of MEI

- 40 years in the Pyrotechnic Industry
- 1,044 acre facility
- Fully instrumented 40mm test ranges
- 38 years of hand grenade fuze production
- Invented 40mm medium velocity ammunition

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- **Certified packaging and transportation testing facility**
 - **High skilled, stable work force**
 - **Fully permitted and environmentally responsible company**
 - **Additional product capacity available**
 - **Developer of new 40mm ammunition types**



40mm Products









THE HELLHOUND IS THE PREMIER 40MM LOW VELOCITY HE ROUND IN THE WORLD!

LETHALITY sets the **HELLHOUND** apart from any other LV 40mm round in service today! MEI has incorporated several innovative designs into the **HELLHOUND** to maximize its lethality and give the Warfighter a true Multi-Purpose LV 40mm round.

First, MEI incorporated an innovative fragmentation sleeve to maximize the shrapnel produced by the round. By moving the pre-fragmented sleeve to the outside of the round versus the standard Cup & Skirt arrangement, MEI provides more fragmentation material than other LV 40mm rounds, and minimizes the fragmentation directed back at the shooter.

Next, MEI incorporated its patented propulsion system into the round which provides better flight ballistics and tighter velocity standard deviations as compared to the M433. In addition, this patented propulsion system allows MEI to fly the heavier **HELLHOUND** at similar muzzle velocity of a standard LV 40mm round with comparable recoil.

Finally, added to these innovations, the **HELLHOUND** has TWICE the explosive fill of any other LV 40mm round in service today.

IT ALL ADDS UP TO A MORE LETHAL MULTI-PURPOSE ROUND.

HELLHOUND

TECHNICAL SPECIFICATIONS

Weapons: M79, M203, Milkor M32, H&K AG36

Maximum Range: 400m (437.6 yds)

Muzzle Velocity: 76mps (247fps)

Fuze: M550 or SF801 compliant with MIL-STD-1316

HELLHOUND FEATURES

- ✓ AVAILABLE IN HE OR HEDP CONFIGURATIONS
- ✓ TWICE THE EXPLOSIVE FILL OF STANDARD LV
- ✓ MORE FRAGMENTATION MATERIAL THAN M433
- ✓ ENHANCED FRAGMENTATION PATTERN
- ✓ EXCELLENT DOOR BREACHING CAPABILITY

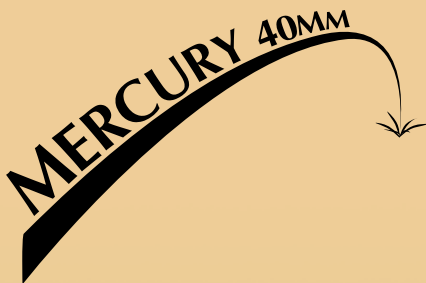
Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
Hellhound HE 40mm Cartridge	44026000	1.1F	0005	Cartridges for weapons	44	0.301

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
48	1010	0.084	DTL44026000	1.44









THE NEXT EVOLUTION IN THE 40MM WORLD – MEDIUM VELOCITY HEDP

The **MERCURY HEDP** Medium Velocity Round is the next generation of 40mm ammunition. Incorporating MEI's innovative patented propulsion system, the **MERCURY HEDP** is able to achieve a maximum range of 800m with only a slight increase in the measurable recoil from a standard LV round. Because of the increased range of this ammunition, it allows for engagement of targets at a greater effective range, and in Military Operations Urban Terrain (MOUT) environments, provides direct fire capabilities up to 100m. Giving the Warfighter improved flexibility for target selection and engagement.

The **MERCURY HEDP** also incorporates MEI's innovative fragmentation sleeve design providing enhanced fragmentation area and a more evenly dispersed fragmentation pattern.

Added to this is a 25% increase in the explosive fill versus the M433 providing a more powerful punch at a longer range. The **MERCURY HEDP** is equally effective against Troops in the Open or MOUT type engagements.

The Mercury 40mm Program is the result of a joint effort between MEI and Cherming Defense UK. Our combined expertise has resulted in an entirely new capability for the Warfighter.

MERCURY HEDP

TECHNICAL SPECIFICATIONS

Weapons: Milkor M32, M203, H&K AG36, M79

Maximum Range: 800m (874.9 yds)

Muzzle Velocity: 107mps (351fps)

Fuze: M550 or SF801 compliant with MIL-STD-1316

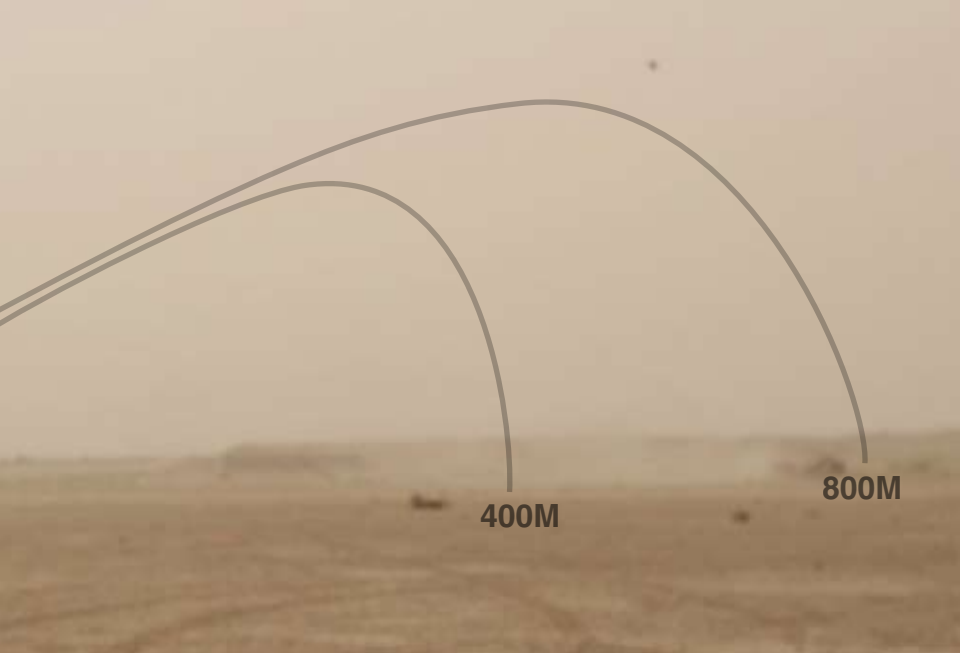
Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
Mercury HEDP 40mm Cartridge	57001000	1.1F	0005	Cartridges for weapons	44	0.268



MERCURY HEDP FEATURES

- ✓ INCREASED RANGE
- ✓ INCREASED LETHALITY
- ✓ LARGER FRAGMENTATION THAN M433
- ✓ ENHANCED FRAGMENTATION PATTERN
- ✓ DIRECT FIRE CAPABILITIES OUT TO 100M

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
48	970	0.070	DTL57001000	1.44





CARTRIDGE 40MM
HUNTIR
CAMERA PARACHUTE



**BATTLEFIELD
INTELLIGENCE IS
IMPORTANT.
TACTICAL
AWARENESS SAVES
LIVES!**

The **H**igh-altitude**U**nit**N**avigated**T**actical**I**maging**R**ound (**HUNTIR**) is a Tactical Awareness tool for the warfighter. In conjunction with First Witness Video, MEI designed the **HUNTIR** to be used at the Squad, Platoon or Company level. The **HUNTIR** provides vital battlefield tactical awareness to units without having to request outside assets. In today's combat environment it's important to know what's several miles around you, but it's critical to know what's two blocks in front of you. The **HUNTIR** can provide the tactical awareness units need at a time and place of their choosing. The **HUNTIR** can be fired from any Low Velocity Grenade Launcher, needs no additional training and in conjunction with a video receiving unit, provides real-time streaming video and a series of high resolution images of the surrounding battlefield.

Upon firing, the projectile assembly is propelled to an average height of 600 feet; the parachute and attached camera assembly are ejected and begin transmitting real-time streaming video to a handheld receiver or a lap top computer. The **HUNTIR** is an economical way to give the Warfighter a tool to help assess the battlefield, costing a fraction of what an Expendable UAV costs, while providing time-sensitive information to the Squad, Platoon or Company when it is needed most – NOW!

BE THE HUNTER NOT THE PREY!

HUNTIR

TECHNICAL SPECIFICATIONS

Weapons: M79, M203, Milkor M32, H&K AG36

Altitude Max: 700ft

Muzzle Velocity: 80mps (262fps)

Video: Real-time streaming video and Stop-Capture Frames

HUNTIR FEATURES

- ✓ PROVIDES IMMEDIATE TACTICAL AWARENESS
- ✓ EXCELLENT ANTI-SNIPER TOOL
- ✓ ECONOMICAL – COSTS FRACTION OF UAV
- ✓ SQUAD, PLATOON OR COMPANY LEVEL ASSET

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
Huntir Camera 40mm Cartridge	45009000	1.4G	0312	Cartridges, signal	12	0.175

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
48	970	0.084	DTL45009000	1.44





HAND HELD RECEIVING UNIT

- Compatible with 24 Mhz L-Band receivers. MEI will supply receiver or confirm the HUNTIR is compatible with receivers already in use.





M433I and M433

40MM LV HEDP

MEI manufactures both the standard US M433 (Part #8886371) packed in cloth bandoleers and the M433I (Part #9322240) packed in M2A1 ammunition cans. The M433I is available with improved fuze options. The M2A1 packaging is more efficient and weighs significantly less than the standard US M433 packaging. Both versions have identical form, fit and function.

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
M433I HEDP 40mm Cartridge	9322240	1.1E	0006	Cartridges for weapons	44	0.226

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
48	969	0.043	DTL9322240	1.44

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
M433 HEDP 40mm Cartridge	8886371	1.1F	0005	Cartridges for weapons	72	0.226

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)	NSN	DODIC
27	689	0.043	MIL-C-50872	1.14	1310-00-992-0451	B546



M430A1

HV HEDP

MEI manufactures the M430A1 HEDP cartridge for use in the MK19 Mod 3 Automatic Grenade Launcher and other similar systems. MEI has developed a team of component suppliers for the M430A1 that insures our customers receive the highest quality M430A1 available. MEI has the flexibility and resources to fulfill our customer's ammunition requirements with shortened lead times.

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
M430A1 HEDP 40mm Cartridge	12926811	1.1E	0006	Cartridges for weapons	32	0.635

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)	NSN	DODIC
48	975	0.039	DTL12926811	1.21	1310-01-419-9285	B542



40mm Training Rounds

MEI produces a full-range of 40mm Training Rounds. All of MEI's Training Rounds are ballistically matched to our Tactical Rounds to ensure that the Warfighters are training in the same manner in which they will fight. MEI incorporates the same level of quality and precision in our training rounds as we do in our tactical rounds providing a superior product at an economical price.

LOW VELOCITY TRAINING ROUND

M781



- ✓ Ballistic match to M433
- ✓ Incorporates MEI's Patented Propulsion System
- ✓ Available with Blue or White Ogive

MEDIUM VELOCITY TRAINING ROUND

MERCURY MVT



- ✓ Ballistic match to the MERCURY MV
- ✓ Incorporates MEI's Patented Propulsion System
- ✓ Available with Blue or White Ogive

HIGH VELOCITY TRAINING ROUND

M918



- ✓ Ballistic match to the M430A1
- ✓ Economical Training Round
- ✓ Produces Flash on Impact

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
M781 Practice 40mm Cartridge	932240	1.4C	0339	Cartridges for weapons	100	0.205

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)	NSN	DODIC
20	545	0.0004	DTL932240	1.04	1310-01-211-8073	B519

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
Mercury Practice 40mm Cartridge	57001000	1.4C	0339	Cartridges for weapons	44	0.26

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
48	970	0.002	DTL57001000	1.44

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
M918 Practice 40mm Cartridge HV	9399372	1.4C	0339	Cartridges for weapons	32	0.635

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)	NSN	DODIC
48	975	0.006	DTL9399372	1.21	1310-01-362-5294	B584

SOLAR FLARE & M583A1

40MM ILLUMINATION ROUND

“MEI is the leading US manufacturer and exporter of 40mm illumination cartridges. MEI produces the **M583A1** 40mm parachute illumination cartridge with 70,000 candle-power and the MEI **SOLAR FLARE** that provides 150,000 candlepower. The rounds can be used for overhead illumination or ground target marking. When you need to “Light up the Night”, you can depend on the SOLAR FLARE.

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
M583A1 40mm Cartridge, White Star Parachute	9243881	1.4G	0312	Cartridges, signal	44	0.476
Solar Flare	53001000					

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)	NSN	DODIC
48	970	0.083	MIL-C-63092	1.44	1310-00-159-3198	B535
			DTL53001000			



ORACLE & M992

40MM IR ILLUMINATION ROUND

MEI's **ORACLE** and **M992** are 40mm IR Illumination Rounds. Both rounds produce IR Illumination 26 watts/steridan minimum with less than 300 candle-power of visible light. These rounds provide the Warfighter or Police with IR illumination capabilities without compromising their position.

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
M992 40mm Cartridge, IR Parachute	12956736	1.2G	0312	Cartridges, signal	44	0.476
Oracle	54001000	1.4G				

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)	NSN	DODIC
48	970	0.083	MIL-C-63092	1.44	1310-01-422-1048	BA03
			DTL53001000			



40MM

COLORED ILLUMINATION

MEI produces M661Green, M662 Red and M663 Yellow Illumination Rounds in ground marking or parachute configuration. MEI also produces the M585 White Star Cluster Round. The color and cluster flares are ideal for signaling and marking targets or landing zones.

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
M661	48002000-1	1.4G	0312	Cartridges, signal	44	0.476
M662	48002000-2					
M663	48002000-3					

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
48	970	0.0826	DTL48002000	1.44



MERCURY MARKERS

40MM FLARE & SMOKE

As part of the MERCURY 40mm product line, MEI and Cherming Defense UK developed smoke and flare rounds with a range out to 800 meters. Colored smoke and ground marking visible and IR flares enable the Warfighter to mark targets at extended distances while staying outside the effective range of most small arms. The red phosphorus flare version is an excellent target marker for aircraft with thermal sights. The intense heat generated has enabled rotary and fixed wing aircraft to lock on the signature several miles away. All MERCURY rounds feature MEI's patented propulsion design. The design reduces internal chamber pressures and recoil allowing use in current 40mm grenade launcher systems.

Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box	Weight per unit (kg)
Mercury Smoke	574000	1.4G	0312	Cartridges, signal	44	0.26
Mercury Flare	573000					

Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)
48	970	0.112

Close Combat Products





M49AI
Trip Flare



M228
Practice
Hand
Grenade
Fuze



M201
Hand
Grenade
Fuze



**First
Responder**
Fire
Suppression
Device



MEI403
Fuze &
Diversionary
Charge



**M22
ATWESS
TOW**
Simulator



M213
Fragmentation
Hand
Grenade
Fuze



M74AI
Artillery
Airburst
Simulator

M49A1 TRIP FLARE

The M49A1 Trip Flare is an early warning signaling device used to warn of infiltrating troops by illuminating the area surrounding the trip flare.

The M49A1 Trip Flare consists of an illuminant assembly, cover loading assembly and a mounting bracket assembly. The illuminant assembly is an aluminum case containing an ignition increment and three illuminant increments. The waterproof cover loading assembly contains a percussion primer, intermediate charge and a spring-loaded striker.

The Flare is armed by attaching a Trip-Wire to either the trigger or pull-pin. Once the Trip-Wire has been breached, either the trigger tongue or pull pin will release the lever, which in turn permits the firing pin to strike the primer. The primer sets off the intermediate charge, and the intermediate charge ignites the First-Fire composition on the ignition increment of the Flare. The M49A1 Trip Flare will provide a light intensity exceeding 35,000 candle power for approximately one minute.



Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box
M49A1 Trip Flare	8836957	1.3G	0092	Flares, Surface	32

Weight per unit (kg)	Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
0.397	18	440	0.1412	MIL-F-20420	1.07

NSN	DODIC
1310-00-752-8060	L495

M201A1 HAND GRENADE FUZE

MEI produces a family of fuzes for use in several different products. The M201A1 Hand Grenade Fuze is used to initiate incendiary devices to include: Hand Held Smoke Grenades, Cryptographic Document Destroyers and Hand Held Tear Gas Grenades. The M201A1 has a percussion-actuated primer which ignites a delay charge of 0.7 to 2.0 seconds that detonates the output charge.



Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box
M201A1 Fuze	131022	1.4G	0317	Fuzes, Igniting	280

Weight per unit (kg)	Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification
0.162	18	473	0.0015	MIL-DTL-51353

MEI403 FUZE AND MK155 DIVERSIONARY CHARGE

The MEI403 Fuze is a replaceable fuze assembly for the reusable MK155 Diversionary Charge. The MEI403 is a percussion actuated Fuze with 0.7 to 2.0 second delay. Upon actuation, a loud audible report is produced (approximately 165 dB at five feet). The Body contains a brass blow-out disc with ruptures upon initiation. Used in the MK155 Body, the MEI403 produces a loud audible signature without any fragmentation hazards. The MEI403 assembles into the MK155 body for use.



Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box
MEI403 Fuze	1803500	1.4S	0432	Articles, Pyrotechnic	30

Weight per unit (kg)	NEQ per unit (kg)
146	0.0019

Close Combat Products

M213 FRAGMENTATION HAND GRENADE FUZE

The M213 Fragmentation Hand Grenade Fuze has been a mainstay in the US Military for over 30 years. The M213 Fragmentation Hand Grenade Fuze is used in the M67 Fragmentation Hand Grenades.

The M67 Fragmentation Hand Grenade with the M213 Fuze installed is activated in the identical manner as the M69 Practice Grenade with the M228 Fuze, by pulling the ring and pin assembly from the fuze. After the safety pin is pulled and the grenade thrown, the safety lever flies off initiating the delay train. After the delay train has burned 4.0 to 5.5 seconds, it detonates a pyrotechnic detonator causing the detonation of the grenade.

MEI has produced over 30 million M213 Fragmentation Hand Grenade Fuzes since 1968. Through the rigid control of our processes, MEI is able to produce an extremely reliable hand grenade fuze that the Warfighter can depend on to work right the first time and every time.



Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box
M213 Hand Grenade Fuze	8822131	1.1B	0106	Fuzes, Detonating	360

Weight per unit (kg)	Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
0.073	12	512	0.0021	DTL8822131	1.53

NSN	DODIC
1330-00-182-3570	G877

M228 PRACTICE HAND GRENADE FUZE

Just as in the M213 Fragmentation Hand Grenade Fuze, the M228 Practice Hand Grenade Fuze has been a mainstay in the US Military for over 30 years and MEI has been the sole producer of this fuze for over 25 years. The M228 Practice Hand Grenade Fuze is used in the M69 Practice Grenade.

The M69 Practice Hand Grenade with the M228 Fuze installed is activated in the identical manner as the M67 Fragmentation Hand Grenade with the M213 Fuze, by pulling the ring and pin assembly from the fuze. After the safety pin is pulled and the grenade thrown, the safety lever flies off initiating the delay train. After the delay train has burned 4.0 to 5.5 seconds, it detonates a pyrotechnic detonator causing the detonation of the grenade. The M228 Practice Hand Grenade Fuze used in conjunction with the M69 Practice Hand Grenade gives the Warfighter a training tool that accurately replicates the form-fit and function of the M67 Fragmentation Hand Grenade.

MEI has produced over 70 million M228 Practice Hand Grenade Fuzes since 1968.



Product Description	Part #	Hazard Class	UN#	Proper Shipping Name	# Per Box
M228 Hand Grenade Fuze	9235210	1.4G	0317	Fuzes, Igniting	360

Weight per unit (kg)	Boxes per pallet	Pallet Weight (kg)	NEQ per unit (kg)	Specification	Pallet Volume (Cu M)
0.073	12	512	0.002	DTL9235210	1.53

NSN	DODIC
1330-00-168-5502	G878

Close Combat Products

FIRST RESPONDER FIRE SUPPRESSION DEVICE

“The FIRST RESPONDER is a new and innovative tool designed to aid in the suppression of fires and for use as a personal protection device in emergency egress or entrance situations. It is physically and functionally similar to a smoke grenade – with the major difference that it delivers a highly effective and non-toxic aerosol fire suppression agent. The First Responder can have a significant effect on minimizing the growth of fires in ship compartments, military vehicles, and structural fires.

The suppression effects of the aerosol give emergency personnel the time they need to evacuate victims and deploy fire fighting equipment. The aerosol agent will continue to provide fire suppression as long as it stays in contact with the fuel source. In windy or well vented situations multiple First Responders may be deployed. MEI is partnered with Fireaway LLC and uses the patented and proven StatX agent in the First Responder fire suppression device.



Product Description	Part #	Hazard Class	UN#	Proper Shipping Name
First Responder Fire Suppression Device	56001000	1.4G	0431	Articles, Pyrotechnic

# Per Box	Weight per unit (kg)	NEQ per unit (kg)
4	1.12	0.509



M22 ATWESS SIMULATOR

The M22 ATWESS Simulator is a device that produces a Flash, Bang and Smoke signature to simulate a Tube Launched, Optically Tracked, Wire Guided (TOW) Missile firing. The TOW Missile has proven to be a workhorse and is used to engage and destroy enemy armored vehicles, primarily tanks.

The simulator consists of a cylindrical plastic case with a plastic cap closure on one end. Internally, the round consists of a primer and pyrotechnic composition. The device is fired in a TOW Missile Launcher Simulator to effectively train the Warfighter in the safe operation and firing sequence of the TOW Missile.



M74A1 SIMULATOR, ARTILLERY, AIRBURST

The Flash and Sound Signal M74A1 is designed for simulation of air burst artillery fire for training the Warfighter. The simulator is fired from the Hand Projector M9 or the Pyrotechnic Pistol An-M8. The signal consists of an outer case, an expelling charge, and an inner cylindrical case containing the delay fuze and bursting charge.



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