

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: 37 MM POWDER BARRICADE ROUND, OC

Product Code: 1190 (1012115)

1.2. Intended Use of the Product

Explosive Product

1.3. Name, Address, and Telephone of the Responsible Party

Company

Defense Technology, LLC

1855 South Loop

Casper, WY 82601

United States

Tel +1 (307) 235-2136

customercare.wy@defense-technology.com

1.4. Emergency Telephone Number

Emergency Number : VelocityEHS

(800)255-3924 (North America)

+1 (813)248-0585 (International)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

The explosive classification below only applies to US 29 CFR 1910.1200 (HCS/HazCom 2012). The explosive classification is excluded from Canada Hazardous Products Regulations (HPR, SOR/2015-17), it is regulated under the Canada Explosives Act (R.S.C., 1985, c. E-17)

Explosive Category 1.4	H204
Skin corrosion/irritation Category 2	H315
Serious eye damage/eye irritation Category 2	H319
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

2.2. Label Elements

GHS-US/CA Labeling

Any labeling elements (pictograms, signal word, hazard, and precautionary statements) related to explosive classifications apply to the OSHA Hazard Communication Standard (HCS, 29 CFR 1910.1200) only and are excluded from Canada's Hazardous Products Regulations (HPR, SOR/2015-17)

Hazard Pictograms (GHS-US/CA)



Signal Word (GHS-US/CA)

: Warning

Hazard Statements (GHS-US/CA)

: H204 - Fire or projection hazard.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

Precautionary Statements (GHS-US/CA) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P250 - Do not subject to grinding/shock/friction.

P261 - Avoid breathing vapors, mist, or spray.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

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P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing, and eye protection.
P302+P352 - If on skin: Wash with plenty of soap and water.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a poison center or doctor if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P380 - In case of fire: Evacuate area.
P372 - Explosion risk in case of fire.
P373 - DO NOT fight fire when fire reaches explosives.
P374 - Fight fire with normal precautions from a reasonable distance.
P401 - Store in accordance with local, regional, national, and international regulations.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No additional information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Synonyms	Product Identifier	%	GHS Ingredient Classification
Magnesium oxide (MgO)	Calcined magnesite / Magnesium oxide / MAGNESIUM OXIDE / Magnesia	(CAS-No.) 1309-48-4	60 – 80	Not classified
Nitroglycerin	Glycerol trinitrate / Glyceryl nitrate / Glyceryl trinitrate / Nitroglycerol / 1,2,3-Propanetriol, trinitrate / Trinitroglycerin / Trinitroglycerol / Nitroglycerine / 1,2,3-Propanetriol, 1,2,3-trinitrate / Propane-1,2,3-triyl trinitrate / Nitroglycerin, desensitized / Propane-1,2,3-triol trinitrate / Glycerin nitrate / Glycerin trinitrate / Nitro glycerine / nitroglycerin	(CAS-No.) 55-63-0	10 – 30	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Nitrocellulose	NITROCELLULOSE / COLLODION / Nitrocellulose, mixture, without pigment / Guncotton / Collodion / Cellulose, nitrate / Cellulose nitrate / Pyroxylin	(CAS-No.) 9004-70-0	5 – 10	H201
Potassium nitrate	Nitric acid potassium salt / Nitric acid, potassium salt / Nitric acid potassium salt (1:1) / POTASSIUM NITRATE / potassium nitrate	(CAS-No.) 7757-79-1	5 – 10	Ox. Sol. 3, H272
Resins, oleo-, capsicum	Capsicum oleoresin / Capsicum oleoresin, oil soluble / Capsicum oleoresins, extractives and their physically modified derivatives such as essential oils, oleoresins, etc. (Capsicum frutescens L.) / CAPSICUM FRUTESCENS OLEORESIN / Capsicin / Resins, oleo-, capsicum (Extractives and their physically modified derivatives. It is a product which may contain resin acids and their esters, terpenes, and oxidation or polymerization products of these	(CAS-No.) 8023-77-6	1 – 5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

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	terpenes. (Capsicum frutescens, Solanaceae.) / CAPSICUM FRUTESCENS RESIN / Pepper spray / Bush red pepper oleoresin / Capsicum frutescens resin / capsicum oleoresin			
Rosin	Gum rosin / Rosin (A complex combination derived from wood, especially pine wood. Composed primarily of resin acids and modified resin acids such as dimers and decarboxylated resin acids. Includes rosin stabilized by catalytic disproportionation.) / Colophony / Colophonium / Rosin, gum / COLOPHONIUM / Rosin (pinus species) and rosin derivatives / ROSIN / Gum resin / Resin acids / rosin / Rosin (Pinus species)	(CAS-No.) 8050-09-7	0.5 – 1.5	Acute Tox. 4 (Inhalation:dust,mist), H332 Resp. Sens. 1, H334 Skin Sens. 1, H317 Aquatic Acute 2, H401 Aquatic Chronic 2, H411 Comb. Dust
Charcoal	Charcoal (An amorphous form of carbon produced by partially burning or oxidizing wood or other organic matter.)	(CAS-No.) 16291-96-6	0.5 – 1.5	Self-heat. 2, H252 Comb. Dust
Sulfur	Sulphur / Sulphur, molten / Elemental sulfur / Brimstone / SULFUR / Elemental sulphur / Sulfur, elemental / sulfur	(CAS-No.) 7704-34-9	0.5 – 1.5	Skin Irrit. 2, H315 Aquatic Acute 3, H402 Aquatic Chronic 3, H412 Comb. Dust
Iron	Iron, elemental / Direct reduced Iron / Iron, reduced / Elemental iron / IRON POWDER / iron	(CAS-No.) 7439-89-6	0.1 – 1.0	Comb. Dust
Copper	Copper, metallic / Pigment Metal 2 / Copper metal / CI 77400 / Copper, elemental / C.I. Pigment Metal 2 / C.I. 77400 / Granulated copper / copper	(CAS-No.) 7440-50-8	0.1 – 1.0	Comb. Dust
Diphenylamine	Aniline, N-phenyl- / Benzenamine, N-phenyl- / Benzene, (phenylamino)- / Benzene, anilino- / N,N-Diphenylamine / N-Phenylaniline / N-Phenylbenzenamine	(CAS-No.) 122-39-4	0.1 – 1.0	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Urea, N,N'-diethyl-N,N'-diphenyl-	Ethyl centralite / Carbanilide, N,N'-diethyl- / 1,3-Diethyl-1,3-diphenyl urea / N,N'-Diethyl-N,N'-diphenylurea / 1,3-Diethyldiphenylurea / sym-Diethyldiphenylurea / Diethyldiphenylurea / N,N'-Diethylcarbanilide / 1,3-Diethyl-1,3-diphenylurea / N,N'-diethylcarbanilide	(CAS-No.) 85-98-3	0.1 – 1.0	Acute Tox. 4 (Oral), H302 Aquatic Acute 3, H402 Aquatic Chronic 3, H412 Comb. Dust
1,3-Benzenediol, 2,4,6-trinitro-, lead salt	1,3-Benzenediol, 2,4,6-trinitro-, lead(2+) salt (1:1) / Lead 2,4,6-trinitro-m-phenylene dioxide / Lead 2,4,6-trinitroresorcin oxide / Lead styphnate / Lead trinitroresorcinate / Tricinate / 2,4,6-Trinitro-1,3-phenylenedioxylead(II) / Lead 2,4,6-Trinitroresorcin oxide / Lead styphnate, wetted / Normal lead styphnate / Propylene / Lead(II) 2,4,6-trinitrobenzene-1,3-diolate	(CAS-No.) 15245-44-0	<0.1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Carc. 1B, H350 Repr. 1A, H360 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

The actual concentration of ingredient(s) is withheld as a trade secret in accordance with the Hazardous Products Regulations (HPR) SOR/2015-17 and 29 CFR 1910.1200. Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%). Full text of H-statements: see section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Flush with plenty of water for at least 15 minutes. Seek medical advice if irritation develops or persists.

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Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Energetic effects (blast effects, heat, noise, and shrapnel) from functioning of the product can cause serious physical injuries.

Inhalation: During deployment: . May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.

Skin Contact: During deployment: Causes skin irritation. Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Eye Contact: During deployment: May cause severe irritation. After ammunition has been fired, dust, vapors, and/or fumes may cause irritation.

Ingestion: Ingestion is unlikely due to product form. Ingestion may cause adverse effects.

Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: This product is not flammable, but contains a substance that is a flammable solid and will burn at high temperatures. Heating may cause an explosion.

Explosion Hazard: Heating may cause a fire or explosion. Risk of explosion if heated under confinement.

Reactivity: Hazardous reactions will not occur under normal conditions. Contains an oxidizing material which may accelerate fire.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Flood fire area with water from a distance. Move containers from the fire area if you can do it without risk. Do not move cargo or vehicle if cargo has been exposed to heat. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks due to exploding potential when tanks are involved in a fire.

For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. DO NOT fight fire when fire reaches explosives.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Oxides of carbon, nitrogen, and sulfur are evolved in fire.

Other Information: No additional information available.

5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing dust. Avoid breathing dust.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Non-emergency personnel should evacuate the area of the spill and only enter after emergency personnel have declared the area safe to enter.

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Eliminate ignition sources first, then ventilate the area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

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6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Mechanically recover the product. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: If mishandled, energetic effects (blast effects, heat, noise, and shrapnel) from functioning of the product can cause serious physical injuries. CS Agent released during deployment is toxic by inhalation and a severe irritant to skin, eyes, and respiratory system.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing dust.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a locked gate / secure area. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

Explosive Product

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Copper (7440-50-8)		
USA ACGIH	ACGIH OEL TWA	0.2 mg/m ³ (fume)
USA OSHA	OSHA PEL (TWA) [1]	0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
USA NIOSH	NIOSH REL (TWA)	1 mg/m ³ (dust and mist) 0.1 mg/m ³ (fume)
USA IDLH	IDLH	100 mg/m ³ (dust, fume and mist)
Alberta	OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
British Columbia	OEL TWA	1 mg/m ³ (dust and mist) 0.2 mg/m ³ (fume)
Manitoba	OEL TWA	0.2 mg/m ³ (fume)
New Brunswick	OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Newfoundland & Labrador	OEL TWA	0.2 mg/m ³ (fume)
Nova Scotia	OEL TWA	0.2 mg/m ³ (fume)
Nunavut	OEL STEL	3 mg/m ³ (dust and mist) 0.6 mg/m ³ (fume)
Nunavut	OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Northwest Territories	OEL STEL	3 mg/m ³ (dust and mist) 0.6 mg/m ³ (fume)
Northwest Territories	OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Ontario	OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)

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Prince Edward Island	OEL TWA	0.2 mg/m ³ (fume)
Québec	VEMP (OEL TWA)	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Saskatchewan	OEL STEL	0.6 mg/m ³ (fume) 3 mg/m ³ (dust and mist)
Saskatchewan	OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Yukon	OEL STEL	0.2 mg/m ³ (fume) 2 mg/m ³ (dust and mist)
Yukon	OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Sulfur (7704-34-9)		
Alberta	OEL TWA	10 mg/m ³
Charcoal (16291-96-6)		
Ontario	OEL TWA	10 mg/m ³ (except activated)
Magnesium oxide (MgO) (1309-48-4)		
USA ACGIH	ACGIH OEL TWA	10 mg/m ³ (inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) [1]	15 mg/m ³ (fume, total particulate)
USA IDLH	IDLH	750 mg/m ³ (fume)
Alberta	OEL TWA	10 mg/m ³ (fume)
British Columbia	OEL STEL	10 mg/m ³ (respirable dust and fume)
British Columbia	OEL TWA	10 mg/m ³ (fume, inhalable) 3 mg/m ³ (respirable dust and fume)
Manitoba	OEL TWA	10 mg/m ³ (inhalable particulate matter)
New Brunswick	OEL TWA	10 mg/m ³ (fume)
Newfoundland & Labrador	OEL TWA	10 mg/m ³ (inhalable particulate matter)
Nova Scotia	OEL TWA	10 mg/m ³ (inhalable particulate matter)
Nunavut	OEL STEL	20 mg/m ³ (inhalable fraction)
Nunavut	OEL TWA	10 mg/m ³ (inhalable fraction)
Northwest Territories	OEL STEL	20 mg/m ³ (inhalable fraction)
Northwest Territories	OEL TWA	10 mg/m ³ (inhalable fraction)
Ontario	OEL TWA	10 mg/m ³ (inhalable particulate matter)
Prince Edward Island	OEL TWA	10 mg/m ³ (inhalable particulate matter)
Québec	VEMP (OEL TWA)	10 mg/m ³ (inhalable dust)
Saskatchewan	OEL STEL	20 mg/m ³ (inhalable fraction)
Saskatchewan	OEL TWA	10 mg/m ³ (inhalable fraction)
Yukon	OEL STEL	10 mg/m ³ (fume)
Yukon	OEL TWA	10 mg/m ³ (fume)
Nitroglycerin (55-63-0)		
USA ACGIH	ACGIH OEL TWA [ppm]	0.05 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
USA OSHA	OSHA PEL (Ceiling)	2 mg/m ³
USA OSHA	OSHA PEL C [ppm]	0.2 ppm
USA OSHA	Limit value category (OSHA)	prevent or reduce skin absorption
USA NIOSH	NIOSH REL (STEL)	0.1 mg/m ³
USA IDLH	IDLH	75 mg/m ³
Alberta	OEL TWA	0.5 mg/m ³
Alberta	OEL TWA [ppm]	0.05 ppm
British Columbia	OEL TWA [ppm]	0.05 ppm
Manitoba	OEL TWA [ppm]	0.05 ppm

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New Brunswick	OEL TWA	0.46 mg/m ³
New Brunswick	OEL TWA [ppm]	0.05 ppm
Newfoundland & Labrador	OEL TWA [ppm]	0.05 ppm
Nova Scotia	OEL TWA [ppm]	0.05 ppm
Nunavut	OEL STEL [ppm]	0.15 ppm
Nunavut	OEL TWA [ppm]	0.05 ppm
Northwest Territories	OEL STEL [ppm]	0.15 ppm
Northwest Territories	OEL TWA [ppm]	0.05 ppm
Ontario	OEL TWA [ppm]	0.05 ppm
Prince Edward Island	OEL TWA [ppm]	0.05 ppm
Québec	VEMP (OEL TWA) [ppm]	0.05 ppm
Saskatchewan	OEL STEL [ppm]	0.15 ppm
Saskatchewan	OEL TWA [ppm]	0.05 ppm
Yukon	OEL Ceiling [ppm]	0.2 ppm (Ethylene glycol dinitrate and/or nitroglycerin) (Ethylene glycol dinitrate and/or nitroglycerin)
Yukon	OEL STEL	2 mg/m ³
Yukon	OEL STEL [ppm]	0.2 ppm
Yukon	OEL TWA	2 mg/m ³
Yukon	OEL TWA [ppm]	0.2 ppm
Rosin (8050-09-7)		
USA ACGIH	ACGIH OEL TWA	0.001 mg/m ³ (inhalable particulate matter)
USA ACGIH	ACGIH chemical category	dermal sensitizer
Manitoba	OEL TWA	0.001 mg/m ³ (inhalable particulate matter)
Newfoundland & Labrador	OEL TWA	0.001 mg/m ³ (inhalable particulate matter)
Nova Scotia	OEL TWA	0.001 mg/m ³ (inhalable particulate matter)
Prince Edward Island	OEL TWA	0.001 mg/m ³ (inhalable particulate matter)
Diphenylamine (122-39-4)		
USA ACGIH	ACGIH OEL TWA	10 mg/m ³
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA)	10 mg/m ³
Alberta	OEL TWA	10 mg/m ³
British Columbia	OEL TWA	10 mg/m ³
Manitoba	OEL TWA	10 mg/m ³
New Brunswick	OEL TWA	10 mg/m ³
Newfoundland & Labrador	OEL TWA	10 mg/m ³
Nova Scotia	OEL TWA	10 mg/m ³
Nunavut	OEL STEL	20 mg/m ³
Nunavut	OEL TWA	10 mg/m ³
Northwest Territories	OEL STEL	20 mg/m ³
Northwest Territories	OEL TWA	10 mg/m ³
Ontario	OEL TWA	10 mg/m ³
Prince Edward Island	OEL TWA	10 mg/m ³
Québec	VEMP (OEL TWA)	10 mg/m ³
Saskatchewan	OEL STEL	20 mg/m ³
Saskatchewan	OEL TWA	10 mg/m ³
Yukon	OEL STEL	20 mg/m ³
Yukon	OEL TWA	10 mg/m ³

8.2. Exposure Controls

Appropriate Engineering Controls: Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

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Personal Protective Equipment: Gloves. Protective clothing. Protective goggles.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: When needed, wear protective gloves to protect against thermal and/or mechanical hazards.

Eye and Face Protection: During deployment: Chemical safety goggles or safety glasses with side shields.

Skin and Body Protection: During deployment: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Solid metal container containing solid contents
Odor	: Pungent
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Lower Flammable Limit	: No data available
Upper Flammable Limit	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20°C	: No data available
Relative Density	: No data available
Specific Gravity	: No data available
Solubility	: No data available
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Explosive Properties	: Class 1.4 - Explosives (with no significant blast hazard) 49 CFR 173.50

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions. Contains an oxidizing material which may accelerate fire.

10.2. Chemical Stability:

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions:

Hazardous polymerization will not occur. Heating may cause a fire or explosion.

10.4. Conditions to Avoid:

Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible Materials:

Strong acids, strong bases, strong oxidizers.

10.6. Hazardous Decomposition Products:

Oxides of carbon, nitrogen, and sulfur are evolved in fire.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Likely routes of exposure: Dermal. Eye contact.

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Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

Skin Corrosion/Irritation: Causes skin irritation.

Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: During deployment: . May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.

Symptoms/Injuries After Skin Contact: During deployment: . Causes skin irritation. Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: During deployment: . May cause severe irritation. After ammunition has been fired, dust, vapors, and/or fumes may cause irritation.

Symptoms/Injuries After Ingestion: Ingestion is unlikely due to product form. Ingestion may cause adverse effects.

Chronic Symptoms: None expected under normal conditions of use.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Iron (7439-89-6)	
LD50 Oral Rat	98.6 g/kg
Copper (7440-50-8)	
LC50 Inhalation Rat	> 5.11 mg/l/4h
1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)	
LD50 Dermal Rat	> 2000 mg/kg
LC50 Inhalation Rat	> 5.05 mg/l/4h
ATE US/CA (oral)	500.00 mg/kg body weight
ATE US/CA (dust, mist)	1.50 mg/l/4h
Potassium nitrate (7757-79-1)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
LC50 Inhalation Rat	> 0.527 mg/l/4h (No deaths)
Sulfur (7704-34-9)	
LD50 Oral Rat	> 3000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 9.23 mg/l/4h
Charcoal (16291-96-6)	
LC50 Inhalation Rat	> 4.97 mg/l/4h
Resins, oleo-, capsicum (8023-77-6)	
LD50 Oral Rat	> 3 g/kg
LC50 Inhalation Rat	> 10000 g/m ³ (Exposure time: 4 h)
ATE US/CA (oral)	500.00 mg/kg body weight
Magnesium oxide (MgO) (1309-48-4)	
LD50 Oral Rat	3870 mg/kg
Nitroglycerin (55-63-0)	
LD50 Oral Rat	100 mg/kg
LD50 Dermal Rat	> 9560 mg/kg
ATE US/CA (dust, mist)	0.05 mg/l/4h

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Nitrocellulose (9004-70-0)	
LD50 Oral Rat	5000 mg/kg
Rosin (8050-09-7)	
LD50 Oral Rat	7600 mg/kg
LD50 Dermal Rabbit	> 2500 mg/kg
LC50 Inhalation Rat	2.3 mg/l/4h

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Diphenylamine (122-39-4)	
LD50 Oral Rat	1120 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
Urea, N,N'-diethyl-N,N'-diphenyl- (85-98-3)	
LD50 Oral Rat	780.9 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
LC50 Inhalation Rat	> 198 mg/l (Exposure time: 8 h)
ATE US/CA (oral)	500.00 mg/kg body weight
1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)	
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Diphenylamine (122-39-4)	
IARC Group	2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not classified.

Zinc (7440-66-6)	
EC50 - Crustacea [1]	0.169 mg/l
1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)	
EC50 - Crustacea [1]	7 mg/l
Potassium nitrate (7757-79-1)	
EC50 - Crustacea [1]	490 mg/l
Sulfur (7704-34-9)	
LC50 Fish 1	866 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 - Crustacea [1]	736 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	14 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
Nitroglycerin (55-63-0)	
LC50 Fish 1	0.87 – 3.25 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 - Crustacea [1]	46 – 55 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	0.87 – 2.21 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 - Crustacea [2]	38 – 55 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
ErC50 algae	0.4 mg/l
NOEC Chronic Fish	0.03 mg/l
Nitrocellulose (9004-70-0)	
ErC50 algae	579 mg/l
Rosin (8050-09-7)	
EC50 - Crustacea [1]	3.8 – 5.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Diphenylamine (122-39-4)	
LC50 Fish 1	3.47 – 4.14 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	1.69 – 2.46 mg/l (Exposure time: 48 h - Species: Daphnia magna)
ErC50 algae	0.36 mg/l (Exposure time: 72 h - Species: Green algae)
NOEC Chronic Algae	0.0273 mg/l

12.2. Persistence and Degradability

37 MM POWDER BARRICADE ROUND, OC	
Persistence and Degradability	Not established.
Copper (7440-50-8)	
Persistence and Degradability	Not readily biodegradable.

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12.3. Bioaccumulative Potential

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Bioaccumulative Potential	Bioaccumulation of metals cannot be excluded.
1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)	
Partition coefficient n-octanol/water (Log Pow)	-2.19 (at 20 °C)
Charcoal (16291-96-6)	
Partition coefficient n-octanol/water (Log Pow)	(0.3 - <=3.48 - at 25 °C (at pH 6.97)
Rosin (8050-09-7)	
Partition coefficient n-octanol/water (Log Pow)	(>1.9 - <=7.7 (at pH 2)
Diphenylamine (122-39-4)	
BCF Fish 1	51 – 253
Partition coefficient n-octanol/water (Log Pow)	3.4

12.4. Mobility in Soil

37 MM POWDER BARRICADE ROUND, OC	
Ecology - Soil	No data available.

12.5. Other Adverse Effects

Other Adverse Effects: None known.

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Treatment Methods: Incineration is the preferred method for disposal of waste product. Can be landfilled, when in compliance with local regulations.

Sewage Disposal Recommendations: Do not dispose of waste into sewer. Do not empty into drains.

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Proper Shipping Name : AMMUNITION, TEAR-PRODUCING
Hazard Class : 1.4G
Identification Number : UN0301
Label Codes : 1.4G, 8, 6.1



14.2. In Accordance with IMDG

Proper Shipping Name : AMMUNITION, TEAR-PRODUCING
Hazard Class : 1.4G (6.1, 8)
Identification Number : UN0301
Label Codes : 1.4G, 6.1, 8
EmS-No. (Fire) : F-B
EmS-No. (Spillage) : S-Z



14.3. In Accordance with IATA

Proper Shipping Name : AMMUNITION, TEAR-PRODUCING
Hazard Class : 1.4G (6.1, 8)
Identification Number : UN0301
Label Codes : 1.4G, 6.1, 8
ERG Code (IATA) : 1CP



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14.4. In Accordance with TDG

Proper Shipping Name : AMMUNITION, TEAR-PRODUCING
Hazard Class : 1.4G
Identification Number : UN0301
Label Codes : 1.4G, 6.1, 8
Packing Group : II



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Iron (7439-89-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Copper (7440-50-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
SARA Section 313 - Emission Reporting	1 %
Zinc (7440-66-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	454 kg no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
SARA Section 313 - Emission Reporting	1 % (dust or fume only)
1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Antimony sulfide (Sb₂S₃) (1345-04-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Potassium nitrate (7757-79-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Sulfur (7704-34-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Charcoal (16291-96-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Resins, oleo-, capsicum (8023-77-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Magnesium oxide (MgO) (1309-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Nitroglycerin (55-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	10 lb
SARA Section 313 - Emission Reporting	1 %
Nitrocellulose (9004-70-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
Rosin (8050-09-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	

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Diphenylamine (122-39-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting

1 %

Urea, N,N'-diethyl-N,N'-diphenyl- (85-98-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

15.2. US State Regulations

California Proposition 65



WARNING: This product can expose you to 1,3-Benzenediol, 2,4,6-trinitro-, lead salt, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)	X			

Copper (7440-50-8)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Zinc (7440-66-6)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Massachusetts - Right To Know List

Potassium nitrate (7757-79-1)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

Sulfur (7704-34-9)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

Magnesium oxide (MgO) (1309-48-4)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

Nitroglycerin (55-63-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Nitrocellulose (9004-70-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

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Diphenylamine (122-39-4)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

15.3. Canadian Regulations

Iron (7439-89-6)

Listed on the Canadian DSL (Domestic Substances List)

Copper (7440-50-8)

Listed on the Canadian DSL (Domestic Substances List)

Zinc (7440-66-6)

Listed on the Canadian DSL (Domestic Substances List)

1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)

Listed on the Canadian DSL (Domestic Substances List)

Potassium nitrate (7757-79-1)

Listed on the Canadian DSL (Domestic Substances List)

Sulfur (7704-34-9)

Listed on the Canadian DSL (Domestic Substances List)

Charcoal (16291-96-6)

Listed on the Canadian DSL (Domestic Substances List)

Resins, oleo-, capsicum (8023-77-6)

Listed on the Canadian DSL (Domestic Substances List)

Magnesium oxide (MgO) (1309-48-4)

Listed on the Canadian DSL (Domestic Substances List)

Nitroglycerin (55-63-0)

Listed on the Canadian DSL (Domestic Substances List)

Nitrocellulose (9004-70-0)

Listed on the Canadian DSL (Domestic Substances List)

Rosin (8050-09-7)

Listed on the Canadian DSL (Domestic Substances List)

Diphenylamine (122-39-4)

Listed on the Canadian DSL (Domestic Substances List)

Urea, N,N'-diethyl-N,N'-diphenyl- (85-98-3)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 02/09/2023

Revision

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

H200	Unstable explosive
H201	Explosive; mass explosion hazard
H204	Fire or projection hazard
H252	Self-heating in large quantities; may catch fire
H272	May intensify fire; oxidizer
H301	Toxic if swallowed
H302	Harmful if swallowed

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H311	Toxic in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)