

Cartridge 9 mm FX® Marking, TOXFREE® primer

SECTION 1. IDENTIFICATION

Product Identifier	Cartridge 9 mm FX® Marking, TOXFREE® primer
Other Means of Identification	Revision 8
Product Family	Cartridge, 9 MM
Manufacturer/Supplier Identifier	General Dynamics - Ordnance and Tactical Systems - Canada Inc, 5, Montée des Arsenaux, Repentigny, Québec, J5Z 2P4, 450-581-3080
Emergency Phone No.	MD-UN, 1-888-922-3330, (Canada/U.S.A)
SDS No.	0315
Date of Preparation	décembre 15, 2021

SECTION 2. HAZARD IDENTIFICATION

Classification

Explosive - Division 1.4; Reproductive toxicity - Category 2; Aquatic hazard (Acute) - Category 3

Label Elements



Signal Word:
Warning

Hazard Statement(s):

Fire or projection hazard.
Suspected of damaging fertility or the unborn child.
Harmful to aquatic life.

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep only in original packaging.
Do not subject to grinding, shock, or friction.
Wear face protection. protective gloves
Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.

Response:

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
IF exposed or concerned: Get medical advice/attention.

Storage:

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Store in accordance with local, regional, national and international regulations.

Dispose of contents and container in accordance with local, regional, national and international regulations.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

This product is an explosive article which is composed of a finished cartridge containing various components that are sealed completely within the cartridge. Under normal conditions of handling, no exposure to any of the harmful components inside the cartridge is expected and no health effects are generally expected as supplied.

When cartridges are fired, or otherwise discharged, gases, fumes and projectiles may be formed. These gases, fumes and projectiles may contain trace amounts of the components inside the cartridges. These gases, fumes and projectiles may be irritating to the eyes, skin and respiratory tract.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Copper	7440-50-8	45-70	
Zinc metal	7440-66-6	10-30	
Poly(oxymethylene)	9002-81-7	10-30	Acetal
Polypropylene	9003-07-0	1-5	PP
Sodium lauryl ether sulfate	68891-38-3	1-5	SLES
Barium sulfate	7727-43-7	1-5	
Nitroglycerin	55-63-0	trace	NG
Diazodinitrophenol	87-31-0	0.1-1	DDNP
Various Dye		0.1-1	
1,2-Propylene glycol	57-55-6	0.1-1	
Nitrocellulose	9004-70-0	0.1-1	NC
Potassium nitrate	7757-79-1	0.1-1	
Tetrazene	54410-57-0	trace	
Ethyl centralite	85-98-3	trace	
Diphenylamine	122-39-4	trace	
Graphite (natural)	7782-42-5	trace	
Dibutyl phthalate	84-74-2	trace	
Polyester adipate		trace	
Rosin	8050-09-7	trace	
N-Nitrosodiphenylamine	86-30-6	trace	
Potassium sulfate	7778-80-5	trace	
Calcium carbonate	471-34-1	trace	
Aluminum Powder	7429-90-5	trace	
2,4-Dinitrotoluene	121-14-2	trace	DNT
Arkadite II	13114-72-2	trace	
Ethyl acetate	141-78-6	trace	
Tin dioxide	18282-10-5	trace	

Notes

Concentrations listed above are the final concentration in the complete finished cartridge.

The exact concentration of ingredients has been withheld as a trade secret.

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SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

None required under normal conditions.

If projectiles are fired, or otherwise discharged, the following treatment may be necessary:

Move to fresh air.

Get medical advice or attention if you feel unwell or are concerned.

Skin Contact

None required under normal conditions.

If cartridges are fired, or otherwise discharged, the following treatment may be necessary:

Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes.

If exposed or concerned, get medical advice or attention.

Eye Contact

None required under normal conditions.

If cartridges are fired, or otherwise discharged, the following treatment may be necessary:

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

If eye irritation persists, get medical advice or attention.

Ingestion

None required under normal conditions.

Not expected, based upon the current form of the product.

Most Important Symptoms and Effects, Acute and Delayed

If cartridges are fired, or otherwise discharged, gases, fumes and projections may be formed. These gases, fumes and projections may contain trace amounts of the components inside the cartridges. These gases, fumes and projections may be irritating to the eyes skin and respiratory tract.

Immediate Medical Attention and Special Treatment

Target Organs

If fired different decomposition product could have effects on: digestive system, respiratory system, nervous system.

Special Instructions

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Explosive product: do not fight the fire.

If fire has not reached explosives:

Use flooding quantities of water or other suitable extinguishing agent. Carbon dioxide, dry chemical powder or appropriate foam.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Can ignite if strongly heated.

Can be ignited by static discharge.

Ignites readily. When ignited burns vigorously and persistently.

Heating may cause a fire or explosion.

Explosive; fire, blast or projection hazard.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; nitrogen oxides; corrosive sulfur oxides.

Special Protective Equipment and Precautions for Fire-fighters

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Do not fight fire when fire reaches explosives. Risk of explosion.
Evacuate area.

Fight fire from a safe distance or a protected location.

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills.

Cargo Fires: Packages bearing the 1.4 label or packages containing material classified as 1.4 are designed or packaged in such manner that when involved in a fire, may burn vigorously with localized detonations and projection of fragments.

Effects are usually confined to immediate vicinity of packages.

If fire threatens cargo area containing packages bearing the 1.4 label or packages containing material classified as 1.4, consider isolating at least 15 meters (50 feet) in all directions. Fight fire with normal precautions from a reasonable distance.

Tire or vehicle fires: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel.

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Eliminate all ignition sources. Use grounded, explosion-proof equipment.

Environmental Precautions

If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Do not allow into any sewer, on the ground or into any waterway.

It is good practice to prevent releases into the environment.

Methods and Materials for Containment and Cleaning Up

Handle spilled products carefully. Do not subject product to mechanical shock. Remove all sources of ignition. Ventilate the area.

For solid, intact cartridges: pick up and arrange disposal.

Other Information

Contact supplier, local fire and emergency services for help.

Report spills to local health, safety and environmental authorities, as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs.

Electrically bond and ground equipment. Ground clips must contact bare metal.

Avoid shock, friction or impact. Do not skid, drag or drop containers.

Only use where there is adequate ventilation.

Wear personal protective equipment to avoid direct contact with this chemical.

Disassembly/assembly operations shall be conducted only by experienced personnel qualified to perform the task.

Follow appropriate explosive safety requirements. Local ordinances may apply.

Conditions for Safe Storage

Store in an area that is: cool, temperature-controlled, well-ventilated, out of direct sunlight and away from heat and ignition sources. No smoking in the area.

Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

Store in the original, labelled, shipping container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH® TLV®		OSHA PEL	
	TWA	STEL [C]	TWA	STEL

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Copper	1 mg/m3	Not established	0.1 mg/m3	Not established
Zinc metal	Not established	Not established	Not established	Not established
Diazodinitrophenol	Not established	Not established	Not established	Not established
Tetrazene	Not established	Not established	Not established	Not established
Polypropylene	Not established	Not established	Not established	Not established
Sodium lauryl ether sulfate	Not established	Not established	Not established	Not established
1,2-Propylene glycol	Not established	Not established	Not established	Not established
Barium sulfate	5 mg/m3	Not established	10 mg/m3	Not established
Poly(oxyethylene)	Not established	Not established	5 mg/m3	Not established
Nitrocellulose	Not established	Not established	Not established	Not established
Potassium nitrate	Not established	Not established	Not established	Not established
Nitroglycerin	0.05 ppm Skin	Not established	0.1 mg/m3 Skin	Not established
Ethyl centralite	Not established	Not established	Not established	Not established
Diphenylamine	10 mg/m3	Not established	10 mg/m3	Not established
Graphite (natural)	2 mg/m3	Not established	2.5 mg/m3	Not established
Dibutyl phthalate	5 mg/m3	Not established	5 mg/m3	Not established
Polyester adipate	Not established	Not established	Not established	Not established
Rosin	Not established	Not established	Not established	Not established
N-Nitrosodiphenylamine	Not established	Not established	Not established	Not established
Potassium sulfate	Not established	Not established	Not established	Not established
Calcium carbonate	Not established	Not established	15 mg/m3	Not established
Aluminum Powder	1 mg/m3 A4	Not established	5 mg/m3	Not established
2,4-Dinitrotoluene	0.2 mg/m3 A3 Skin	Not established	Not established	Not established
Arkadite II	Not established	Not established	Not established	Not established
Ethyl acetate	400 ppm	Not established	400 ppm	Not established
Tin dioxide	Not established	Not established	2 mg/m3	Not established

Appropriate Engineering Controls

General ventilation is usually adequate.

Do not allow product to accumulate in the air in work or storage areas, or in confined spaces.

Individual Protection Measures

Eye/Face Protection

Safety glasses with side shields should be used with this product. If necessary, refer to U.S. OSHA 29 1310.133 or Canadian CSA Standard Z94.3-02.

Skin Protection

Not required, if used as directed. Prevent skin contact.

Respiratory Protection

Not normally required if product is used as directed. Use a NIOSH approved dust respirator if dust levels exceed exposure limits.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Odour	Odourless
Melting Point/Freezing Point	Not applicable (melting); Not applicable (freezing)
Initial Boiling Point/Range	Not applicable
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not applicable

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Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Density (air = 1)	Not applicable
Solubility	Insoluble in water
Auto-ignition Temperature	>= 120 °C (248 °F) (Tetrazene)
Decomposition Temperature	Not applicable
Other Information	
Physical State	Solid
Critical Temperature	>= 120 °C (248 °F) (Tetrazene)

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Heating may cause a fire or explosion. Explosive; fire, blast or projection hazard. Sensitive to mechanical impact.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

May igniter if primer is struck. Mechanical shock or impact. Friction. Open flames, sparks, static discharge, heat and other ignition sources. Temperatures above 120.0 °C (248.0 °F)

Incompatible Materials

Oils, acids, alkalis, ammonium salts, ammonia and other corrosives materials.

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; corrosive, oxidizing nitrogen oxides; corrosive sulfur oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

The following hazards are not expected to be present unless the product is fired or otherwise discharged so that gases, fumes and/or projections are created.

Normal handling and shipping should not cause exposure to these hazards.

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Copper	Not available	413 mg/kg (mouse)	375 mg/kg (rabbit)
Zinc metal	Not available	630 mg/kg	Not available
Diazodinitrophenol	Not available	Not available	Not available
Tetrazene	Not available	Not available	Not available
Polypropylene	Not available	> 8000 mg/kg (rat)	Not available
Sodium lauryl ether sulfate	Not available	> 5000 mg/kg (rat)	> 2000 mg/kg (rat)
1,2-Propylene glycol	44900 mg/m ³ (rat) (4-hour exposure)	21800 mg/kg (rat)	20800 mg/kg (rabbit)
Barium sulfate	Not available	> 3000 mg/kg (mouse)	Not available
Poly(oxyethylene)	> 22000 mg/m ³ (rat)	> 11000 mg/kg (rat)	Not available
Nitrocellulose	Not available	5000 mg/kg (rat)	Not available

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Potassium nitrate	Not available	3015 mg/kg (rat)	Not available
Nitroglycerin	Not available	105 mg/kg (rat)	> 280 mg/kg (rabbit)
Ethyl centralite	Not available	2750 mg/kg (rat)	Not available
Diphenylamine	Not available	1120 mg/kg (rat)	> 5000 mg/kg (rabbit)
Graphite (natural)	> 64 mg/L (rat)	> 10000 mg/kg (rat)	Not available
Dibutyl phthalate	12500 mg/m3 (mouse) (4-hour exposure)	8000 mg/kg (rat)	4200 mg/kg (rabbit) 90 days
Polyester adipate	Not available	Not available	Not available
Rosin	110 mg/m3 (rat)	7600 mg/kg (rat)	Not available
N-Nitrosodiphenylamine	Not available	1825 mg/kg (rat)	> 7940 mg/kg (rabbit)
Potassium sulfate	Not available	6600 mg/kg (mouse)	Not available
Calcium carbonate	Not available	6450 mg/kg (rat)	Not available
Aluminum Powder	> 1000 mg/m3 (male rat) (4-hour exposure)	Not available	Not available
2,4-Dinitrotoluene	Not available	400 mg/kg (rat)	> 2500 mg/kg (rat)
Arkadite II	Not available	2930 mg/kg (rat)	> 280 mg/kg (rabbit)
Ethyl acetate	1500 ppm (mouse) (4-hour exposure)	4900 mg/kg (rabbit)	Not available
Tin dioxide	Not available	> 20000 mg/kg (rat)	Not available

Skin Corrosion/Irritation

Based on available data, the classification criteria are not met.

Serious Eye Damage/Irritation

Based on available data, the classification criteria are not met.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

After munitions have been fired, dust, vapours and/or fumes may be irritating to the respiratory system.
May cause depression of the central nervous system. (Nitroglycerin). (Ethyl acetate)
Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

Skin Absorption

No information was located.

Ingestion

After munitions have been fired, dust, vapours and/or fumes may be absorbed by the digestive system and be irritating
Can cause effects as described for inhalation.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above.

Respiratory and/or Skin Sensitization

Not a respiratory sensitizer. Not a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP
Copper	Not Listed	Not designated	Not Listed
Zinc metal	Not Listed	Not designated	Not Listed
Diazodinitrophenol	Not Listed	Not designated	Not Listed
Tetrazene	Not Listed	Not designated	Not Listed
Polypropylene	Group 3	Not designated	Not Listed
Sodium lauryl ether sulfate	Not Listed	Not designated	Not Listed

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1,2-Propylene glycol	Not Listed	Not designated	Not Listed
Barium sulfate	Not Listed	Not designated	Not Listed
Poly(oxymethylene)	Not Listed	Not designated	Not Listed
Nitrocellulose	Not Listed	Not designated	Not Listed
Potassium nitrate	Not Listed	Not designated	Not Listed
Nitroglycerin	Not Listed	Not designated	Not Listed
Ethyl centralite	Not Listed	Not designated	Not Listed
Diphenylamine	Not Listed	A4	Not Listed
Graphite (natural)	Not Listed	Not designated	Not Listed
Dibutyl phthalate	Not Listed	Not designated	Not Listed
Polyester adipate	Not Listed	Not designated	Not Listed
Rosin	Not Listed	Not designated	Not Listed
N-Nitrosodiphenylamine	Group 3	Not designated	Not Listed
Potassium sulfate	Not Listed	Not designated	Not Listed
Calcium carbonate	Not Listed	Not designated	Not Listed
Aluminum Powder	Not Listed	A4	Not Listed
2,4-Dinitrotoluene	Group 2B	A3	Not Listed
Arkadite II	Not Listed	Not designated	Not Listed
Ethyl acetate	Not Listed	Not designated	Not Listed
Tin dioxide	Not Listed	Not designated	Not Listed

IARC:

Group 2B – Possibly carcinogenic to humans.

Group 3 – Not classifiable as to its carcinogenicity to humans.

ACGIH®:

A3 – Confirmed animal carcinogen.

A4 – Not classifiable as a human carcinogen.

Key to Abbreviations

ACGIH® = American Conference of Governmental Industrial Hygienists.

IARC = International Agency for Research on Cancer.

NTP = National Toxicology Program.

Reproductive Toxicity

Development of Offspring

May harm the unborn child. (Dibutyl phthalate)

Sexual Function and Fertility

Animal studies show effects on sexual function and/or fertility. (Diphenylamine). (Dibutyl phthalate)

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life, based on acute toxicity tests. (Copper). (Zinc metal). (Sodium lauryl ether sulfate). (Ethyl centralite). (Nitroglycerin). (Diphenylamine). (Dibutyl phthalate). (Aluminum Powder)

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Algae
Copper	0.0224 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour)	0.2 mg/L (Daphnia magna (water flea); 48-hour)	Not available
Zinc metal	0.450 mg/L (96-hour)	0.068 mg/L (Daphnia)	0.15 mg/L (72-hour)

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		magna (water flea); 48-hour)	
Diazodinitrophenol	Not available	Not available	Not available
Tetrazene	Not available	Not available	Not available
Polypropylene	Not available	Not available	Not available
Sodium lauryl ether sulfate	10-100 mg/L (Leuciscus idus)	2.3-4.8 mg/L (Ceriodaphnia dubia (Water flea); 48-hour)	Not available
1,2-Propylene glycol	51600 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; static)	> 18300 mg/L (Daphnia magna (water flea); 48-hour)	19000 mg/L (Selenastrum capricornutum (algae); 96-hour; static)
Barium sulfate	Not available	32 mg/L (Daphnia magna (water flea); 48-hour; fresh water; static)	Not available
Poly(oxymethylene)	Not available	Not available	Not available
Nitrocellulose	Not available	Not available	730 mg/L (Selenastrum capricornutum (algae); 96-hour)
Potassium nitrate	39 mg/L (Daphnia magna (water flea); 96-hour; fresh water; static)	Not available	Not available
Nitroglycerin	1.28 mg/L (Lepomis macrochirus (bluegill); 96-hour; static)	Not available	Not available
Ethyl centralite	15.6 mg/L (96-hour; static)	14.3 mg/L (Daphnia magna (water flea); 48-hour; static)	37.8 mg/L (Desmodesmus subspicatus (algae); 72-hour; static)
Diphenylamine	3.79 mg/L (Pimephales promelas (fathead minnow); 96-hour)	0.27-0.36 mg/L (Daphnia magna (water flea); 48-hour)	0.048 mg/L (Desmodesmus subspicatus (algae); 72-hour)
Graphite (natural)	> 100 mg/L (96-hour)	> 100 mg/L (Daphnia magna (water flea); 48-hour)	> 100 mg/L (Pseudokirchneriella subcapitata (algae); 72-hour)
Dibutyl phthalate	44 mg/L (Lepomis macrochirus (bluegill); 96-hour; fresh water; static)	17 mg/L (Daphnia magna (water flea); fresh water; recirculation)	25-50 mg/L (Pseudokirchneriella subcapitata (algae); 96-hour; fresh water; static)
Polyester adipate	Not available	Not available	Not available
Rosin	60.3 mg/L (96-hour; static)	Not available	Not available
N-Nitrosodiphenylamine	5.8 mg/L (Lepomis macrochirus (bluegill); 96-hour)	7.8 mg/L (Daphnia magna (water flea); 48-hour)	Not available
Potassium sulfate	680 mg/L (Pimephales promelas (fathead minnow); 96-hour)	Not available	Not available
Calcium carbonate	> 56000 mg/L (96-hour; static)	Not available	Not available
Aluminum Powder	0.12 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; static)	Not available	Not available

2,4-Dinitrotoluene	24.3 mg/L (Pimephales promelas (fathead minnow); 96-hour)	<= 38 mg/L (Daphnia magna (water flea); fresh water; recirculation)	14.3 mg/L (Pseudokirchneriella subcapitata (algae); 96-hour; fresh water; static)
Arkadite II	Not available	Not available	Not available
Ethyl acetate	230 mg/L (Pimephales promelas (fathead minnow); 96-hour; fresh water; flow-through)	2306 mg/L (Daphnia magna (water flea); 48-hour; fresh water; recirculation)	5600 mg/L (Desmodesmus subspicatus (algae); 48-hour; fresh water; static)
Tin dioxide	Not available	Not available	Not available

Bioaccumulative Potential

This product and its degradation products are not known to bioaccumulate.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

The recommended means for disposing of scrap material usually involves demilitarization of detonator assembly (i.e.: separating all explosive elements for individual destruction) it can also be done by open detonation but it is not the preferred way.

Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

Dispose of contents and container in accordance with local, regional, national and international regulations. Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN0012	Cartridges for weapons, small arms	1.4S	II

Special Precautions Please note: Avoid shock and friction. Appropriate advice on safety must accompany the package.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL or are not required to be listed.

CEPA - National Pollutant Release Inventory (NPRI)

Part 1A. (Copper). (Zinc metal). (Potassium nitrate). (Aluminum Powder). (Dibutyl phthalate). (Diphenylamine). (Nitroglycerin). (N-Nitrosodiphenylamine). (2,4-Dinitrotoluene)
Part 5. (Ethyl acetate)

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By General Dynamics - Ordnance and Tactical Systems - Canada Inc

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Phone No. (450) 581-3080
Date of Preparation décembre 15, 2021
Date of Last Revision mai 26, 2021
Revision Indicators The following SDS content was changed on décembre 15, 2021:
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS;
Ingredient Information.
Section 8 - Exposure Controls/Personal Protection;
in accordance with changes in section 3
SECTION 11. TOXICOLOGICAL INFORMATION;
in accordance with changes in section 3
SECTION 12. ECOLOGICAL INFORMATION;
in accordance with changes in section 3
Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists

HSDB® = Hazardous Substances Data Bank

IARC = International Agency for Research on Cancer

NIOSH = National Institute for Occupational Safety and Health

NTP = National Toxicology Program

OSHA = US Occupational Safety and Health Administration

RTECS® = Registry of Toxic Effects of Chemical Substances

Inh = Inhalation

LC = Lethal Concentration

LD = Lethal Dose

EPA = Environmental Protection Agency

PEL = Permissible exposure limit

SDS = Safety Data Sheet / Material Safety Data Sheet

STEL = Short Term Exposure Limit

TDG = Canadian Transportation of Dangerous Goods Act & Regulations

TLV = Threshold Limit Values

TWA = Time Weighted Average

WHMIS = Workplace Hazardous Materials Identification System

N/Ap = Not Applicable

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS).
NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS).
Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).
ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices.
Chempendium, HSDB and RTECS database. Available from Canadian Centre for Occupational Health and Safety (CCOHS).

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completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.
This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of General Dynamics Ordnance and Tactical Systems - Canada Inc.

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