Centerfire Rifle & Pistol Sporting Ammunition

Safety Data Sheet
according to Regulation (EC) No. 453/2010

Revision date: 22/10/2024 Version: 2.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name : Small Arms Ammunition – Centerfire Rifle & Pistol Ammunition

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Ammunition

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Company

Federal Cartridge Company
900 Ehlen Drive
Anoka, MN 55303
T 1-800-635-7656
dangerous.goods@tkghunt.com

1.4. Emergency Telephone Number

Emergency Number (Transportation incidents only) : 1-800-424-9300 (Inside US), 01-703-527-3887 (Outside US) - (CHEMTREC, Day or Night)

SECTION 2: Hazards identification

2.1. Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Expl. 1.4	H204
Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Acute Tox. 3 (Inhalation:dust,mist)	H331
Skin Sens. 1	H317
Carc. 2	H351
Repr. 1A	H360
STOT RE 1	H372

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

E; R2
T; R23/24/25
R43
Carc.Cat.3; R40
T; R48/23/24/25
Repr.Cat.1; R60-61
Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label Elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS01

Signal word (CLP) : Danger
Hazardous ingredients : Nickel, Lead, Nitroglycerin, Antimony, Barium
Hazard statements (CLP) : H204 - Fire or projection hazard
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer
H360 - May damage fertility or the unborn child

		H372 - Causes damage to organs through prolonged or repeated exposure
Precautionary statements (CLP)	:	P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P240 - Ground/bond container and receiving equipment P250 - Do not subject to grinding, shock, friction P260 - Do not breathe dust, fume P264 - Wash hands, forearms and exposed areas thoroughly after handling P270 - Do not eat, drink or smoke when using this product P271 - Use only outdoors or in a well-ventilated area P272 - Contaminated work clothing should not be allowed out of the workplace P280 - Wear protective clothing, protective gloves, eye protection P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor P302+P352 - IF ON SKIN: Wash with plenty of water P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing P308+P313 - If exposed or concerned: Get medical advice/attention P311 - Call a POISON CENTER or doctor P321 - Specific treatment (see Section 4 on this label) P330 - Rinse mouth P333+P313 - If skin irritation or rash occurs: Get medical advice/attention P361+P364 - Take off immediately all contaminated clothing and wash it before reuse 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 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 according to local, regional, national, and international regulations
Other hazards not contributing to the classification	:	Lead and barium are toxic metals that may be released during the firing of primers. Care should be taken in the cleaning of range facilities to minimize the exposure potential to lead and barium. Persons engaged in these activities should wear protective clothing with an appropriate respirator. Severe lead intoxication has been associated in the past with sterility, abortion, and stillbirth. Exposure to lead can aggravate pre-existing anemia, cardiovascular and respiratory diseases and conditions related to the gastrointestinal, reproductive, renal (kidney), and central nervous systems.

SECTION 3: Composition/information on ingredients

3.1. Substance Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification according to Directive 67/548/EEC
Lead	(CAS No) 7439-92-1 (EC no) 231-100-4	30 - 60	Xn; R20/22 Repr.Cat.1; R60-61 T; R48/23/25 N; R50/53
Copper	(CAS No) 7440-50-8 (EC no) 231-159-6;918-168-7	25 - 41	N; R50/53
Zinc	(CAS No) 7440-66-6 (EC no) 231-175-3	1 - 16	N; R50

Name	Product Identifier	%	Classification according to Directive 67/548/EEC
Nitrocellulose	(CAS No) 9004-70-0 (EC no) 618-392-2 (EC index no) 603-037-00-6	0,5 - 12	E; R3
Nitroglycerin	(CAS No) 55-63-0 (EC no) 200-240-8;309-692-1 (EC index no) 603-034-00-X	≤ 7	T+; R26/27/28 E; R3 R33 N; R51/53
Antimony	(CAS No) 7440-36-0 (EC no) 231-146-5	≤ 3	T; R25
Nickel	(CAS No) 7440-02-0 (EC no) 231-111-4 (EC index no) 028-002-00-7	≤ 1	Carc.Cat.3; R40 R43 T; R48/23 R52/53 N; R50
Zinc oxide	(CAS No) 1314-13-2 (EC no) 215-222-5 (EC index no) 030-013-00-7	< 0,25	N; R50/53
Graphite	(CAS No) 7782-42-5 (EC no) 231-955-3	≤ 0,25	Xn; R48/20/21/22
Lead, dihydroxy[2,4,6-trinitro-1,3-benzenediolato(2-)]di-	(CAS No) 12403-82-6 (EC no) 235-642-2	< 0,1	Xn; R20/22 Repr.Cat.1; R60-61 Xn; R48/20/21/22 N; R50/53
Bismuth oxide (Bi_2O_3)	(CAS No) 1304-76-3 (EC no) 212-786-4;215-134-7	< 0,1	Not classified
Aluminum	(CAS No) 7429-90-5 (EC no) 231-072-3 (EC index no) 013-002-00-1	< 0,1	F; R11 F; R15
Barium	(CAS No) 7440-39-3 (EC no) 231-149-1	< 0,1	Xi; R36/37/38 T; R25
1-Tetrazene-1-carboximidic acid, 4-(aminoiminomethyl)-, 2-nitrosohydrazide	(CAS No) 109-27-3 (EC no) 203-659-4	< 0,1	Not classified

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Lead	(CAS No) 7439-92-1 (EC no) 231-100-4	30 - 60	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Repr. 1A, H360FD STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Copper	(CAS No) 7440-50-8 (EC no) 231-159-6;918-168-7	25 - 41	Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
Zinc	(CAS No) 7440-66-6 (EC no) 231-175-3	1 - 16	Aquatic Acute 1, H400
Nitrocellulose	(CAS No) 9004-70-0 (EC no) 618-392-2 (EC index no) 603-037-00-6	0,5 - 12	Not classified

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Nitroglycerin	(CAS No) 55-63-0 (EC no) 200-240-8;309-692-1 (EC index no) 603-034-00-X	≤ 7	Unst. Expl, H200 Acute Tox. 2 (Oral), H300 Acute Tox. 2 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 STOT RE 2, H373 Aquatic Chronic 2, H411
Antimony	(CAS No) 7440-36-0 (EC no) 231-146-5	≤ 3	Acute Tox. 3 (Oral), H301
Nickel	(CAS No) 7440-02-0 (EC no) 231-111-4 (EC index no) 028-002-00-7	≤ 1	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Zinc oxide	(CAS No) 1314-13-2 (EC no) 215-222-5 (EC index no) 030-013-00-7	< 0,25	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Graphite	(CAS No) 7782-42-5 (EC no) 231-955-3	≤ 0,25	STOT RE 2, H373
Lead, dihydroxy[2,4,6-trinitro-1,3-benzenediolato(2-)]di-	(CAS No) 12403-82-6 (EC no) 235-642-2	< 0,1	Expl. 1.1, H201 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Inhalation:dust,mist), H332 Repr. 1A, H360 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Bismuth oxide (Bi_2O_3)	(CAS No) 1304-76-3 (EC no) 212-786-4;215-134-7	< 0,1	Not classified
Aluminum	(CAS No) 7429-90-5 (EC no) 231-072-3 (EC index no) 013-002-00-1	< 0,1	Flam. Sol. 1, H228 Water-react. 2, H261
Barium	(CAS No) 7440-39-3 (EC no) 231-149-1	< 0,1	Water-react. 2, H261 Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
1-Tetrazene-1-carboximidic acid, 4-(aminoiminomethyl)-, 2-nitrosohydrazide	(CAS No) 109-27-3 (EC no) 203-659-4	< 0,1	Unst. Expl, H200

Full text of R- and H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of First Aid Measures

First-aid measures general : Never give anything by mouth to an unconscious person. If exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : When symptoms occur: go into open air and ventilate suspected area. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.

First-aid measures after skin contact : Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Call a POISON CENTER/doctor/physician if you feel unwell. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Get medical advice/attention if you feel unwell.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms/injuries : Toxic if swallowed, in contact with skin or if inhaled. May cause an allergic skin reaction. Projectiles from fired ammunition can cause puncture wounds.

Symptoms/injuries after inhalation : Toxic if inhaled.

Symptoms/injuries after skin contact : Toxic in contact with skin. May cause an allergic skin reaction.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : Toxic if swallowed.

Chronic symptoms : Suspected of causing cancer. May damage fertility. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure.

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

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing Media

Suitable extinguishing media : DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Water may be applied through fixed extinguishing system (sprinklers) as long as people need not be present for the system to operate.

Unsuitable extinguishing media : DO NOT fight fires involving explosives.

5.2. Special Hazards Arising From the Substance or Mixture

Fire hazard : May ignite if heated to 250 °F (121 °C) causing projection of unconfined cartridges.

Explosion hazard : Explosive. Explosion risk in case of fire.

Reactivity : May detonate with friction, impact, heat, and low level electrical current.

5.3. Advice for firefighters

Precautionary measures fire : Do not breathe fumes from fires or vapours from decomposition.

Firefighting instructions : Exercise caution when fighting any chemical fire. DO NOT fight fire when fire reaches explosives. Evacuate area.

Protection during firefighting : Firefighters should wear full protective gear when fighting or downwind of initial fire not involving explosives.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid skin and eye contact. Do not breathe dust or fumes. Evacuate danger area. Do not allow product to spread into the environment.

6.1.1. For non-emergency personnel

Protective equipment : Use appropriate personal protection equipment (PPE).

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Hazardous waste due to potential risk of explosion. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain and collect as any solid. Use only non-sparking tools.

Methods for cleaning up : Clear up spills immediately and dispose of waste safely.

6.4. Reference to other sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Projectiles from fired ammunition can cause puncture wounds. Avoid striking the primer of unchambered cartridges. Remove ammunition from service if any of the following conditions have occurred: corrosion, physical damage, exposure to oil or spray type lubricants.

Precautions for safe handling : Obtain special instructions before use. Use only outdoors or in a well-ventilated area. Wear recommended personal protective equipment.

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures :
Storage conditions : Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place.
Incompatible products : Strong acids. Strong bases. Strong oxidizers.
Incompatible materials : Heat sources. Avoid ignition sources.
Storage area : Store locked up.

7.3. Specific end use(s)

Ammunition

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Zinc oxide (1314-13-2)		
Austria	MAK (mg/m³)	5 mg/m³
Belgium	Limit value (mg/m³)	5 mg/m³
Belgium	Short time value (mg/m³)	10 mg/m³
Bulgaria	OEL TWA (mg/m³)	5,0 mg/m³
Bulgaria	OEL STEL (mg/m³)	10,0 mg/m³
France	VME (mg/m³)	10 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
Italy - Portugal - USA ACGIH	ACGIH STEL (mg/m³)	10 mg/m³
Latvia	OEL TWA (mg/m³)	0,5 mg/m³
Spain	VLA-ED (mg/m³)	2 mg/m³
Spain	VLA-EC (mg/m³)	10 mg/m³
Czech Republic	Expoziční limity (PEL) (mg/m³)	2 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	4 mg/m³
Finland	HTP-arvo (8h) (mg/m³)	2 mg/m³
Finland	HTP-arvo (15 min)	10 mg/m³
Hungary	AK-érték	5 mg/m³
Hungary	CK-érték	20 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	2 mg/m³
Ireland	OEL (15 min ref) (mg/m3)	10 mg/m³
Lithuania	IPRV (mg/m³)	5 mg/m³
Poland	NDS (mg/m³)	5 mg/m³
Poland	NDSCh (mg/m³)	10 mg/m³
Romania	OEL TWA (mg/m³)	5 mg/m³
Romania	OEL STEL (mg/m³)	10 mg/m³
Slovakia	NPHV (priemerná) (mg/m³)	1 mg/m³
Slovakia	NPHV (Hraničná) (mg/m³)	1 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	5 mg/m³
Portugal	OEL TWA (mg/m³)	2 mg/m³
Portugal	OEL STEL (mg/m³)	10 mg/m³

Nickel (7440-02-0)		
Belgium	Limit value (mg/m³)	1 mg/m³
Bulgaria	OEL TWA (mg/m³)	0,05 mg/m³
France	VME (mg/m³)	1 mg/m³ (metal gratings)

Nickel (7440-02-0)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	1,5 mg/m³
Latvia	OEL TWA (mg/m³)	0,05 mg/m³
Spain	VLA-ED (mg/m³)	1 mg/m³ (manufacturing, commercialization, and use restrictions under REACH)
United Kingdom	WEL TWA (mg/m³)	0,5 mg/m³
United Kingdom	WEL STEL (mg/m³)	1,5 mg/m³ (calculated)
Czech Republic	Expoziční limity (PEL) (mg/m³)	0,5 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	0,05 mg/m³
Finland	HTP-arvo (8h) (mg/m³)	1 mg/m³
Hungary	MK-érték	0,1 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	0,5 mg/m³
Lithuania	IPRV (mg/m³)	0,5 mg/m³
Poland	NDS (mg/m³)	0,25 mg/m³
Romania	OEL TWA (mg/m³)	0,10 mg/m³
Romania	OEL STEL (mg/m³)	0,50 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	0,5 mg/m³
Portugal	OEL TWA (mg/m³)	1,5 mg/m³
Portugal	OEL chemical category (PT)	A5 - Not Suspected as a Human Carcinogen
Lead (7439-92-1)		
Austria	MAK (mg/m³)	0,1 mg/m³
Austria	MAK Short time value (mg/m³)	0,4 mg/m³
Bulgaria	OEL TWA (mg/m³)	0,05 mg/m³
Cyprus	OEL TWA (mg/m³)	0,15 mg/m³
France	VME (mg/m³)	0,1 mg/m³ (restrictive limit)
Germany	TRGS 903 (BGW)	300 µg/l (Medium: whole blood - Time: no restriction - Parameter: Lead (women age below 45 years) 400 µg/l (Medium: whole blood - Time: no restriction - Parameter: Lead (women 45 years and older)
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	0,05 mg/m³
Italy	OEL TWA (mg/m³)	0,15 mg/m³
Latvia	OEL TWA (mg/m³)	0,005 mg/m³
Spain	VLA-ED (mg/m³)	0,15 mg/m³
United Kingdom	WEL TWA (mg/m³)	0,15 mg/m³
United Kingdom	WEL STEL (mg/m³)	0,45 mg/m³ (calculated)
Czech Republic	Expoziční limity (PEL) (mg/m³)	0,05 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	0,05 mg/m³
Finland	HTP-arvo (8h) (mg/m³)	0,1 mg/m³ (all works)
Hungary	AK-érték	0,15 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	0,15 mg/m³
Lithuania	IPRV (mg/m³)	0,07 mg/m³
Lithuania	TPRV (mg/m³)	0,2 mg/m³
Poland	NDS (mg/m³)	0,05 mg/m³
Romania	OEL TWA (mg/m³)	0,05 mg/m³
Romania	OEL STEL (mg/m³)	0,10 mg/m³
Slovakia	NPHV (priemerná) (mg/m³)	0,15 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	0,05 mg/m³
Portugal	OEL TWA (mg/m³)	0,15 mg/m³ (mandatory indicative limit value)

Lead (7439-92-1)		
Portugal	OEL chemical category (PT)	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Copper (7440-50-8)		
Austria	MAK (mg/m³)	0,1 mg/m³
Austria	MAK Short time value (mg/m³)	0,4 mg/m³
Belgium	Limit value (mg/m³)	1 mg/m³
Bulgaria	OEL TWA (mg/m³)	0,1 mg/m³
France	VLE (mg/m³)	2 mg/m³
France	VME (mg/m³)	1 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	0,2 mg/m³
Latvia	OEL TWA (mg/m³)	0,5 mg/m³
Spain	VLA-ED (mg/m³)	1 mg/m³
Netherlands	MAC TGG 8H (mg/m³)	0,1 mg/m³
United Kingdom	WEL TWA (mg/m³)	1 mg/m³
United Kingdom	WEL STEL (mg/m³)	2 mg/m³
Czech Republic	Expoziční limity (PEL) (mg/m³)	0,1 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	0,1 mg/m³
Finland	HTP-arvo (8h) (mg/m³)	0,1 mg/m³
Hungary	AK-érték	0,1 mg/m³
Hungary	CK-érték	0,4 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	1 mg/m³
Ireland	OEL (15 min ref) (mg/m3)	2 mg/m³
Lithuania	IPRV (mg/m³)	0,2 mg/m³
Poland	NDS (mg/m³)	0,2 mg/m³
Romania	OEL TWA (mg/m³)	0,50 mg/m³
Romania	OEL STEL (mg/m³)	1,50 mg/m³
Slovakia	NPHV (priemerná) (mg/m³)	0,1 mg/m³
Slovakia	NPHV (Hraničná) (mg/m³)	0,2 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	0,2 mg/m³
Portugal	OEL TWA (mg/m³)	1 mg/m³
Nitroglycerin (55-63-0)		
Austria	MAK (mg/m³)	0,5 mg/m³
Austria	MAK (ppm)	0,05 ppm
Austria	MAK Short time value (mg/m³)	2 mg/m³
Austria	MAK Short time value (ppm)	0,2 ppm
Belgium	Limit value (mg/m³)	0,47 mg/m³
Belgium	Limit value (ppm)	0,05 ppm
France	VME (mg/m³)	1 mg/m³
France	VME (ppm)	0,1 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	0,094 mg/m³ (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	0,01 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)

Nitroglycerin (55-63-0)		
Germany	TRGS 903 (BGW)	0,5 µg/l (Medium: plasma/serum - Time: end of shift - Parameter: 1,2-Glycerindinitrate) 0,5 µg/l (Medium: plasma/serum - Time: end of shift - Parameter: 1,3-Glycerindinitrate)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	0,05 ppm
Spain	VLA-ED (mg/m³)	0,5 mg/m³
Spain	VLA-ED (ppm)	0,05 ppm
Czech Republic	Expoziční limity (PEL) (mg/m³)	0,5 mg/m³
Denmark	Grænseværdie (kortvarig) (mg/m³)	0,2 mg/m³
Denmark	Grænseværdie (kortvarig) (ppm)	0,02 ppm
Finland	HTP-arvo (8h) (mg/m³)	0,3 mg/m³
Finland	HTP-arvo (8h) (ppm)	0,03 ppm
Finland	HTP-arvo (15 min)	1 mg/m³
Finland	HTP-arvo (15 min) (ppm)	0,1 ppm
Hungary	AK-érték	0,5 mg/m³
Hungary	CK-érték	2 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	0,5 mg/m³
Ireland	OEL (8 hours ref) (ppm)	0,05 ppm
Ireland	OEL (15 min ref) (mg/m3)	2 mg/m³
Ireland	OEL (15 min ref) (ppm)	0,2 ppm
Lithuania	IPRV (mg/m³)	0,3 mg/m³
Lithuania	IPRV (ppm)	0,03 ppm
Lithuania	TPRV (mg/m³)	0,9 mg/m³
Lithuania	TPRV (ppm)	0,1 ppm
Poland	NDS (mg/m³)	0,5 mg/m³
Poland	NDSCh (mg/m³)	1 mg/m³
Romania	OEL TWA (mg/m³)	0,05 mg/m³
Romania	OEL TWA (ppm)	0,006 ppm
Romania	OEL STEL (mg/m³)	2 mg/m³
Romania	OEL STEL (ppm)	0,25 ppm
Slovakia	NPHV (priemerná) (mg/m³)	0,47 mg/m³
Slovakia	NPHV (priemerná) (ppm)	0,05 ppm
Slovakia	NPHV (Hraničná) (mg/m³)	0,9 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	0,3 mg/m³
Sweden	nivågränsvärde (NVG) (ppm)	0,03 ppm
Sweden	kortidsvärde (KTV) (mg/m³)	0,9 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	0,1 ppm
Portugal	OEL TWA (ppm)	0,05 ppm
Portugal	OEL chemical category (PT)	skin - potential for cutaneous exposure
Graphite (7782-42-5)		
Austria	MAK (mg/m³)	5 mg/m³
Austria	MAK Short time value (mg/m³)	10 mg/m³
Belgium	Limit value (mg/m³)	2 mg/m³ (except fibers)
Bulgaria	OEL TWA (mg/m³)	5,0 mg/m³
France	VME (mg/m³)	2 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³ (all forms except graphite fibers)
Latvia	OEL TWA (mg/m³)	2 mg/m³

Graphite (7782-42-5)		
Spain	VLA-ED (mg/m³)	2 mg/m³
United Kingdom	WEL TWA (mg/m³)	4 mg/m³
United Kingdom	WEL STEL (mg/m³)	12 mg/m³ (calculated)
Czech Republic	Expoziční limity (PEL) (mg/m³)	2,0 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	2,5 mg/m³ (natural)
Finland	HTP-arvo (8h) (mg/m³)	2 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	4 mg/m³
Lithuania	IPRV (mg/m³)	5 mg/m³
Poland	NDS (mg/m³)	6,0 mg/m³ (synthetic)
Romania	OEL TWA (mg/m³)	2 mg/m³ (SiO2 <5%)
Slovakia	NPHV (priemerná) (mg/m³)	10 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	5 mg/m³
Portugal	OEL TWA (mg/m³)	2 mg/m³ (all forms except Graphite fibers)
Aluminum (7429-90-5)		
Austria	MAK (mg/m³)	10 mg/m³
Austria	MAK Short time value (mg/m³)	20 mg/m³
Belgium	Limit value (mg/m³)	1 mg/m³
Bulgaria	OEL TWA (mg/m³)	1,5 mg/m³
France	VME (mg/m³)	5 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³
Latvia	OEL TWA (mg/m³)	2 mg/m³
Spain	VLA-ED (mg/m³)	10 mg/m³
Netherlands	MAC TGG 8H (mg/m³)	0,05 mg/m³
United Kingdom	WEL TWA (mg/m³)	4 mg/m³
United Kingdom	WEL STEL (mg/m³)	12 mg/m³ (calculated)
Czech Republic	Expoziční limity (PEL) (mg/m³)	10,0 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	2 mg/m³
Hungary	AK-érték	6 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	1 mg/m³
Lithuania	IPRV (mg/m³)	1 mg/m³
Poland	NDS (mg/m³)	1,2 mg/m³
Romania	OEL TWA (mg/m³)	1 mg/m³
Romania	OEL STEL (mg/m³)	3 mg/m³
Slovakia	NPHV (priemerná) (mg/m³)	6 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	2 mg/m³
Portugal	OEL TWA (mg/m³)	10 mg/m³
Antimony (7440-36-0)		
Austria	MAK (mg/m³)	0,5 mg/m³
Austria	MAK Short time value (mg/m³)	5 mg/m³
Belgium	Limit value (mg/m³)	0,5 mg/m³
Bulgaria	OEL TWA (mg/m³)	0,5 mg/m³
France	VME (mg/m³)	0,5 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	0,5 mg/m³
Latvia	OEL TWA (mg/m³)	0,2 mg/m³
Spain	VLA-ED (mg/m³)	0,5 mg/m³
Netherlands	MAC TGG 8H (mg/m³)	0,5 mg/m³
United Kingdom	WEL TWA (mg/m³)	0,5 mg/m³

Antimony (7440-36-0)		
United Kingdom	WEL STEL (mg/m³)	1,5 mg/m³ (calculated)
Czech Republic	Expoziční limity (PEL) (mg/m³)	0,5 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	0,5 mg/m³
Finland	HTP-arvo (8h) (mg/m³)	0,5 mg/m³
Hungary	AK-érték	0,5 mg/m³
Hungary	CK-érték	2 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	0,5 mg/m³
Lithuania	IPRV (mg/m³)	0,5 mg/m³
Poland	NDS (mg/m³)	0,5 mg/m³
Romania	OEL TWA (mg/m³)	0,20 mg/m³
Romania	OEL STEL (mg/m³)	0,50 mg/m³
Slovakia	NPHV (priemerná) (mg/m³)	0,5 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	0,25 mg/m³
Portugal	OEL TWA (mg/m³)	0,5 mg/m³
Barium (7440-39-3)		
Austria	MAK (mg/m³)	0,5 mg/m³
Austria	MAK Short time value (mg/m³)	2 mg/m³
Belgium	Limit value (mg/m³)	0,5 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	0,5 mg/m³
Spain	VLA-ED (mg/m³)	0,5 mg/m³ (indicative limit value)
Netherlands	MAC TGG 8H (mg/m³)	0,5 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	0,5 mg/m³
Finland	HTP-arvo (8h) (mg/m³)	0,5 mg/m³
Malta	OEL TWA (mg/m³)	0,5 mg/m³
Poland	NDS (mg/m³)	0,5 mg/m³
Romania	OEL TWA (mg/m³)	0,5 mg/m³
Portugal	OEL TWA (mg/m³)	0,5 mg/m³ (indicative limit value)
Portugal	OEL chemical category (PT)	A4 - Not Classifiable as a Human Carcinogen

8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal protective equipment : Gloves. Protective goggles. Protective clothing.

Materials for protective clothing : Chemically resistant materials and fabrics.

Hand protection : Wear chemically resistant protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wash contaminated clothing before reuse.

Respiratory protection : Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental exposure controls : Do not allow the product to be released into the environment.

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

Colour : Brass or nickel plated brass case with plastic, lead, copper jacketed lead, or nylon clad lead bullet

Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	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
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Viscosity	:	No data available
Explosive properties	:	Explosive; fire, blast or projection hazard
Oxidising properties	:	No data available
Explosive limits	:	Not applicable

9.2. Other information

VOC content : < 1 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Hazardous reactions are unlikely to occur under normal circumstances.

10.2. Chemical stability

Explosive. The effects are largely confined to the package and no projection of fragments of appreicable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package. Do not expose to heat, or ignition sources as this could cause an explosion. If heated above 200 °C (392 °F) may explode.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Extremely high or low temperatures. Heat. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of Barium, Lead, Antimony, Aluminum, Magnesium, Nitrogen, Carbon, and Sulfur.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

Small Arms Ammunition – Centerfire Rifle & Pistol Ammunition	
ATE CLP (oral)	100,000 mg/kg bodyweight
ATE CLP (dermal)	300,000 mg/kg bodyweight
ATE CLP (dust,mist)	0,500 mg/l/4h
Lead, dihydroxy[2,4,6-trinitro-1,3-benzenediolato(2-)]di- (12403-82-6)	
ATE CLP (oral)	500,000 mg/kg bodyweight
ATE CLP (gases)	4500,000 ppmv/4h
ATE CLP (vapours)	11,000 mg/l/4h
ATE CLP (dust,mist)	1,500 mg/l/4h
Zinc oxide (1314-13-2)	
LD50 oral rat	> 5000 mg/kg
ATE CLP (dust,mist)	5,800 mg/l/4h
Nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg

Lead (7439-92-1)	
ATE CLP (oral)	500,000 mg/kg bodyweight
ATE CLP (dust,mist)	1,500 mg/l/4h
Nitroglycerin (55-63-0)	
LD50 oral rat	105 mg/kg
LD50 dermal rabbit	> 280 mg/kg
ATE CLP (dust,mist)	0,050 mg/l/4h
Graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg
Antimony (7440-36-0)	
LD50 oral rat	100 mg/kg
Barium (7440-39-3)	
LD50 oral rat	132 mg/kg

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.
Reproductive toxicity : May damage fertility or the unborn child.
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard : Not classified
Potential Adverse human health effects and symptoms : Toxic in contact with skin. Toxic if inhaled. Toxic if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology – general : Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Zinc oxide (1314-13-2)	
LC50 fishes 1	780 µg/l Species: Pimephales promelas
NOEC chronic fish	0,026 mg/l Species: Jordanella floridae
Nickel (7440-02-0)	
LC50 fishes 1	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	1,3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 other aquatic organisms 2	0,174 - 0,311 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])
Zinc (7440-66-6)	
LC50 fishes 1	2,16 - 3,05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0,139 - 0,908 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0,211 - 0,269 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static])
Lead (7439-92-1)	
LC50 fishes 1	0,44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 1	600 µg/l (Exposure time: 48 h - Species: water flea)
LC50 fish 2	1,17 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
Copper (7440-50-8)	
LC50 fishes 1	≤ 0,0068 (0,0068 - 0,0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0,03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 other aquatic organisms 1	0,0426- 0,0535 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])
LC50 fish 2	0,3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Copper (7440-50-8)	
EC50 other aquatic organisms 2	(0,031 - 0,054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])
Nitroglycerin (55-63-0)	
LC50 fishes 1	0,87 - 3,25 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 Daphnia 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 Daphnia 2	38 - 55 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

Small Arms Ammunition – Centerfire Rifle & Pistol Ammunition	
Persistence and degradability	Not established. May cause long-term adverse effects in the environment.
Copper (7440-50-8)	
Persistence and degradability	Not readily biodegradable.

12.3. Bioaccumulative potential

Small Arms Ammunition – Centerfire Rifle & Pistol Ammunition	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Ecology - waste materials : This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. : 0012

14.2. UN proper shipping name

Proper Shipping Name : CARTRIDGES, SMALL ARMS

Transport document description : UN 0012 CARTRIDGES, SMALL ARMS, 1.4S (1.4S), (E)

14.3. Transport hazard class(es)

Class (UN) : 1

Hazard labels (UN) : 1.4S

14.4. Packing group

Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Classification code (UN) : 1.4S

Special provision (ADR) : 364

Transport category (ADR) : 4

Tunnel restriction code : E

Limited quantities (ADR) : 5kg

Excepted quantities (ADR) : E0

14.6.2. Transport by sea

MFAG-No : 114

14.6.3. Air transport

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	Nitroglycerin
27. Nickel	Nickel
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	Aluminum
Sporting ammunition contain bullets or shot which are articles produced using lead metal [EC 231-100-4] above 0.1% w/w, which was included in the Candidate List on 27/06/2018 as reported by the European Chemical Agency (ECHA) website.	Lead

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Revision date : 22/10/2024

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

Full text of R-, H- and EUH-phrases:

Acute Tox. 2 (Dermal)	Acute toxicity (dermal), Category 2
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Carc. 2	Carcinogenicity, Category 2
Expl. 1.1	Explosives, Division 1.1
Expl. 1.4	Explosives, Division 1.4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Sol. 1	Flammable solids, Category 1
Repr. 1A	Reproductive toxicity, Category 1A

Repr. 1A	Reproductive toxicity, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
Unst. Expl	Explosives, Unstable explosives
Water-react. 2	Substances and Mixtures which, in contact with water, emit flammable gases, Category 2
H200	Unstable explosives
H201	Explosive; mass explosion hazard
H204	Fire or projection hazard
H228	Flammable solid
H261	In contact with water releases flammable gases
H300	Fatal if swallowed
H301	Toxic if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
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
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H360FD	May damage fertility. May damage the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic 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
R11	Highly flammable
R15	Contact with water liberates extremely flammable gases
R2	Risk of explosion by shock, friction, fire or other sources of ignition
R20/22	Harmful by inhalation and if swallowed
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R25	Toxic if swallowed
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed
R3	Extreme risk of explosion by shock, friction, fire or other sources of ignition
R33	Danger of cumulative effects
R36/37/38	Irritating to eyes, respiratory system and skin
R40	Limited evidence of a carcinogenic effect
R43	May cause sensitisation by skin contact
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation

R48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
R48/23/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
R50	Very toxic to aquatic organisms
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R60	May impair fertility
R61	May cause harm to the unborn child
E	Explosive
F	Highly flammable
N	Dangerous for the environment
T	Toxic
T+	Very toxic
Xi	Irritant
Xn	Harmful

SDS EU (REACH Annex II) 10pt

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.