



# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 01/06/2019

Revision date: 12/05/2023

Supersedes: 06/29/2023

Version: 4.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Article  
Product name : Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets  
Synonyms : Barnes VOR-TX® Safari Rifle cartridges with TSX® bullets; Barnes VOR-TX® Euro Rifle Cartridges; Barnes VOR-TX® Long Range Rifle cartridges; Barnes VOR-TX® Handgun cartridges; VOR-TX® Rifle; PIONEER™ cartridges with TSX® or XPB® Bullets; VOR-TX® Reduced Recoil cartridges

#### 1.2. Recommended use and restrictions on use

Recommended use : Ammunition  
Restrictions on use : Uses other than listed on the manufacturer product label

#### 1.3. Supplier

Barnes Bullets, LLC  
38 North Frontage Road  
Mona, UT 84645  
T 435-856-1000

#### 1.4. Emergency telephone number

Emergency number : CHEMTEL 1-800-255-3924

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Explosive Category 1.4 H204 Fire or projection hazard

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning  
Hazard statements (GHS US) : H204 - Fire or projection hazard  
Precautionary statements (GHS US) : 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.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
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 regulations on explosives.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

#### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : This product is considered an explosive article. Each product covered by this Safety Data Sheet is sealed ammunition. The ammunition contains hazardous substances, which under normal conditions of use are not in contact with the user. If the item is fractured or intentionally disassembled prior to actuation, exposure to the contents of this ammunition may cause the following health effects. Toxic if swallowed or in contact with skin and harmful if inhaled, and may damage organs through repeated exposure. May be harmful to aquatic life with long lasting effects.

# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
Nitroglycerin	(CAS-No.) 55-63-0	0 – 3	Unst. Expl., H200 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 STOT RE 2, H373 Aquatic Chronic 2, H411
2,4-Dinitrotoluene	(CAS-No.) 121-14-2	0 – 1.75	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:dust,mist), H331 Muta. 2, H341 Carc. 2, H351 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Dibutyl phthalate	(CAS-No.) 84-74-2	0 – 1	Repr. 1B, H360 Aquatic Acute 1, H400

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

- First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam.  
Unsuitable extinguishing media : Not determined.

### 5.2. Specific hazards arising from the chemical

- Explosion hazard : Explosion risk in case of fire.

### 5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Evacuate area. Do not fight fire when fire reaches explosives. Fight fire with normal precautions from a reasonable distance.  
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking.

# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Do not subject to grinding, shock, friction. Wear personal protective equipment.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.  
Storage conditions : Store in a well-ventilated place. Keep cool.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets	
No additional information available.	
Copper (7440-50-8)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
Zinc (7440-66-6)	
No additional information available.	
Nitrocellulose (9004-70-0)	
No additional information available.	
Nitroglycerin (55-63-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (ppm)	0.05 ppm
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
OSHA PEL (Ceiling) [ppm]	0.2 ppm
Limit value category (OSHA)	prevent or reduce skin absorption
2,4-Dinitrotoluene (121-14-2)	
No additional information available.	
Urea, N,N'-diethyl-N,N'-diphenyl- (85-98-3)	
No additional information available.	
Dibutyl phthalate (84-74-2)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>

# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### USA - OSHA - Occupational Exposure Limits

OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
-------------------------------------	---------------------

### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Solid
Color	: Metallic
Odor	: Odorless
Odor threshold	: No data available.
pH	: No data available.
Melting point	: No data available.
Freezing point	: Not applicable
Boiling point	: No data available.
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available.
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available.
Relative vapor density at 20 °C	: No data available.
Relative density	: No data available.
Solubility	: No data available.
Partition coefficient n-octanol/water (Log Pow)	: No data available.
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available.
Viscosity, kinematic	: No data available.
Viscosity, dynamic	: No data available.
Explosion limits	: Not applicable
Explosive properties	: No data available.
Oxidizing properties	: No data available.

### 9.2. Other information

No additional information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Fire or projection hazard.

# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified.

Acute toxicity (dermal) : Not classified.

Acute toxicity (inhalation) : Not classified.

Nitroglycerin (55-63-0)	
LD50 oral rat	100 mg/kg
LD50 dermal rabbit	> 280 mg/kg
ATE US (oral)	5 mg/kg body weight
ATE US (dermal)	5 mg/kg body weight
ATE US (dust, mist)	0.05 mg/l/4h

2,4-Dinitrotoluene (121-14-2)	
LD50 oral rat	268 mg/kg
LD50 dermal rat	> 2500 mg/kg
ATE US (oral)	268 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (dust, mist)	0.5 mg/l/4h

Dibutyl phthalate (84-74-2)	
LD50 oral rat	7499 mg/kg
LD50 dermal rabbit	> 20000 mg/kg
LC50 Inhalation - Rat	≥ 15.68 mg/l/4h
ATE US (oral)	7499 mg/kg body weight

Skin corrosion/irritation : Not classified.

Serious eye damage/irritation : Not classified.

Respiratory or skin sensitization : Not classified.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified.

2,4-Dinitrotoluene (121-14-2)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	Evidence of Carcinogenicity
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Not classified.

STOT-single exposure : Not classified.

STOT-repeated exposure : Not classified.

# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>Nitroglycerin (55-63-0)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
<b>2,4-Dinitrotoluene (121-14-2)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified.
Viscosity, kinematic	: No data available.
Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

<b>Nitroglycerin (55-63-0)</b>	
LC50 fish 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])
<b>2,4-Dinitrotoluene (121-14-2)</b>	
LC50 fish 1	23 – 25.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	22.5 – 30.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	27.3 – 38 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
NOEC (acute)	316 mg/kg (Exposure time: 14 Days - Species: Eisenia foetida [soil dry weight])
<b>Dibutyl phthalate (84-74-2)</b>	
LC50 fish 1	0.71 – 1.2 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2.99 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0.31 – 5.45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	3.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)

### 12.2. Persistence and degradability

No additional information available.

### 12.3. Bioaccumulative potential

<b>2,4-Dinitrotoluene (121-14-2)</b>	
BCF fish 1	4 – 78
Partition coefficient n-octanol/water (Log Pow)	1.98
<b>Dibutyl phthalate (84-74-2)</b>	
Partition coefficient n-octanol/water (Log Pow)	5.38 (at 25 °C)

### 12.4. Mobility in soil

No additional information available.

### 12.5. Other adverse effects

No additional information available.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 14: Transport information

#### Department of Transportation (DOT)

Transport document description	: UN0012 Cartridges, small arms, 1.4
UN-No.(DOT)	: UN0012
Proper Shipping Name (DOT)	: Cartridges, small arms
Class (DOT)	: 1.4 - Class 1.4 - Explosives (with no significant blast hazard) 49 CFR 173.50
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 62
DOT Packaging Bulk (49 CFR 173.xxx)	: None
DOT Packaging Exceptions (49 CFR 173.xxx)	: 63
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 25 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 100 kg
DOT Vessel Stowage Location	: 01 - The material may be stowed "on deck" or "under deck" on a cargo vessel (up to 12 passengers) and on a passenger vessel.
DOT Vessel Stowage Other	: 25 - Protected from sources of heat
Other information	: No supplementary information available.

#### Transport by sea

Transport document description (IMDG)	: UN 0012 CARTRIDGES, SMALL ARMS, 1.4S
UN-No. (IMDG)	: 0012
Proper Shipping Name (IMDG)	: CARTRIDGES, SMALL ARMS
Class (IMDG)	: 1 - Explosives
Limited quantities (IMDG)	: 5 kg

#### Air transport

Transport document description (IATA)	: UN 0012 Cartridges, small arms, 1.4S
UN-No. (IATA)	: 0012
Proper Shipping Name (IATA)	: Cartridges, small arms
Class (IATA)	: 1 - Explosive

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

SARA Section 311/312 Hazard Classes	Physical hazard - Explosive
-------------------------------------	-----------------------------

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Copper	CAS-No. 7440-50-8	64 – 89%
Zinc	CAS-No. 7440-66-6	8 – 21%
Nitroglycerin	CAS-No. 55-63-0	0 – 3%
2,4-Dinitrotoluene	CAS-No. 121-14-2	0 – 1.75%
Dibutyl phthalate	CAS-No. 84-74-2	0 – 1%

##### Nitroglycerin (55-63-0)

CERCLA RQ	10 lb
-----------	-------

##### 2,4-Dinitrotoluene (121-14-2)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	10 lb
-----------	-------

# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Dibutyl phthalate (84-74-2)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ

10 lb

## 15.2. International regulations

### Nitroglycerin (55-63-0)

Listed on the TCSI (Taiwan Chemical Substance Inventory)


### 2,4-Dinitrotoluene (121-14-2)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

### Dibutyl phthalate (84-74-2)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

## 15.3. US State regulations

 **WARNING:** This product can expose you to 2,4-Dinitrotoluene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Component	State or local regulations
Nitroglycerin(55-63-0)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) List
2,4-Dinitrotoluene(121-14-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) List
Dibutyl phthalate(84-74-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 10/28/2020

Full text of H-phrases:

H200	Unstable explosive
H204	Fire or projection hazard
H300	Fatal if swallowed
H301	Toxic if swallowed
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H330	Fatal if inhaled
H331	Toxic if inhaled
H341	Suspected of causing genetic defects
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
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects



# Barnes Centerfire Rifle and Pistol & Revolver Loaded Ammunition with All Copper Bullets

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

---

SDS US (GHS HazCom 2012)

*DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable*