Companhia Brasileira de Cartuchos

SAFETY DATA SHEET

Product name: **Primed Empty Cartridge Case Small Arms Ammunition - All Calibers**

1- IDENTIFICATION

1.1 Product Identification

Product Name : Primed Empty Cartridge Case Small Arms Ammunition - All Calibers

1.2- Product Use : Centerfire Pistols, Revolvers and Rifle up to caliber .500

1.3 Manufacturer

CBC - COMPANHIA BRASILEIRA DE CARTUCHOS

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09426-900 – Ribeirão Pires - SP – Brazil

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Emergency Response Number 24 Hours: 55-11-2139-8450

2- HAZARD IDENTIFICATION

- Classification and labeling: Hazard Class: Explosive

Hazard category: Division 1.4

Appropriate elements of the labeling:	
Pictograms	
Signal word	**WARNING**
Hazard statements	H204 - Fire or projection hazard
Precautionary statements	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P240 – Ground and bond container and receiving equipment P250 - Do not subject to grinding, mechanical shock and friction. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Response precautionary statements	P370 + P380 - In case of fire: Evacuate area
Storage precautionary statements	P401 - Store in its original packaging.
Disposal precautionary statements	P501 - Disposal of cartridges case in a container, containing water, preferably with detergent, which works as wetting agent.

3 - COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT	CAS Nº EC Nº	CONCENTRATION RANGE IN CARTRIDGE
Copper	7440-50-8 231-159-6	10 - 70
Zinc	7440-66-6 231-175-3	5 - 30
Barium Nitrate	233-020-5 10022-31-8	0.01 – 2

HAZARDOUS COMPONENT	CAS Nº EC Nº	CONCENTRATION RANGE IN CARTRIDGE
Aluminium Powder	231-072-3 7429-90-5	0.01 – 0.10
Antimony Sulfide	215-713-4 1345-04-6	0.01 – 0.10
Lead Styphnate	239-290-0 15245-44-0	0.01 - 1
Tetracene	NAD 109-27-3	0.01 – 0.10
Gum Arabic	232-519-5 9000-01-5	< 0.01 – 0.01
NAD - Not Avaiable Data		

4 FIRST-AID MEASURES

4.1 Inhalation: Remove patient to fresh air. If the patient has stopped breathing, give artificial respiration. If symptoms of chronic effects are noticed, Contact a doctor.

4.2 Ingestion: Call a physician.

4.3 Eyes: Remove patient to fresh air. If eye irritation, contact a physician.

4.4 Skin: Wash hands with soap and water before eating or smoking.

4.5 Most important symptoms and effects, both acute and delayed

4.5.1 Exposure and Effects - Inhalation

4.5.1.1- Acute: Inhalation of dust or fumes may produce mild throat and eye irritation.

4.5.1.2- Chronic: Prolonged, repeated overexposure to fired cartridge dust or fumes, (of fired primer mixture) may result in elevated blood lead levels, affects nervous, urinary and reproductive systems. Symptoms of chronic overexposure to lead (of fired primer mixture) may include weight loss, headaches, depressed hemoglobin, and fatigue.

4.5.1.3- First aid: Remove person to fresh air.

If breathing has stopped, administer artificial respiration. If chronic symptoms appear, contact a physician.

4.5.2- Exposure and Effects - Ingestion

4.5.2.1- Acute: Not defined.

4.5.2.2- Chronic: Not defined.

4.5.2.3- First Aid: Not defined.

4.5.3- Exposure and Effects - Eyes

4.5.3.1- Acute: Contact with large volume of fumes may cause minor eyes irritation.

4.5.3.2- Chronic: None reported.

4.5.3.3- First Aid: Remove person to fresh air and wash with water. If an irritation develops contact a physician.

4.5.4- Exposure and Effects - Skin

4.5.4.1- Acute: Contact of skin with cartridge presents no health hazard.

4.5.4.2- Chronic: Contact of skin with cartridge presents no health hazard.

4.5.4.3- First Aid: Wash hands with soap and water before eating or smoking.

4.6 Notes to physician:

Avoid contact with the product while helping the victim. Keep victim warm and at rest. Do not offer anything by mouth to an unconscious person.

4.7 Exposure and Effects – Carcinogenicity

Contents not known to be carcinogenic.

4.8 Exposure and Effects - Comments

Lead is a toxic metal, which may be released during firing of modern ammunition. Care should be taken in the cleaning of indoor shooting galleries ranges facilities to minimize the exposure potential to lead dust or fumes. Persons engaged in these activities should wear protective clothing with an appropriate respirator.

4.9 Aggravation of Pre-Existing Health Conditions

Prolonged and repeated overexposure to lead dust or fumes (of fired primer mixture) may aggravate anemia and developmental toxicity to the fetus.

5 FIRE-FIGHTING MEASURES

5.1 Unusual Fire and explosion data

Primed empty cartridge cases may ignite if heated above 250ºF (482ºF). Ignited primed empty cartridge cases can produce low velocity metallic fragments which may cause eye injury or superficial skin ounds if unprotected by standard fire fighter turnout gear.

If the original packages are degraded by external fire all blast and projection effects do not have sufficient velocity to penetrate garments and protective gear worn by fire fighters:

There are no records which indicate that a mass explosion (violent simultaneous explosion) is to be expected under these conditions.

5.2 Extinguishing Media

Water deluge.

5.3 Firefighting Procedures

In case of fire, flood area with water and cool the cartridges not reached by the fire. Use normal firefighting equipment. Wear full firefighting protective gear including approved face shield to protect from fragments.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions

Prohibit smoking on the premises.

Evacuate all person from the area for 450m (1500mm feet) in all directions.

Use personal protective equipment as described in Section 8.

6.2 For staff is part of the emergency services

Use standard firefighting equipment. With regard to protection, it must meet the physical characteristics of the product, such as a projection of metallic fragments from the detonation of cartridges and smoke and irritating fumes, why it is advisable to use gas masks.

6.3 Environmental precautions

Not Applicable

6.4 Methods and material for containment and cleaning up

Scrape up spilled material into a suitable container material, which can be plastic, buckets or cans bags. For disposal, proceed according to Section 13 of this SDS.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

- Avoid striking or shock the primers of the primed empty cartridge cases in handling, storage or use.

- Avoid heating by fire, statie electricity, sparks, hot tobacco ashes, or other unspecified abuses.

- Avoid to expose the primed empty cartridge cases to water, or any organic solvent, such as paint thinner, gasoline, kerosene, oil, grease, etc. The primers mauy deteriorate, resulting in misfires or poor ignition.

- Avoid buildup of static electricity. Precautions shall be taken on the person when handling the primed empty cartridge cases or conducting handloading procedures. Loading cartridges equipment shall be electrically grounded.

7.2 Hygiene measures:

Do not eat, drink or smoke while handling or using cartridges. Wash hands thoroughly after use.

7.3 Storage:

- The primed empty cartridge cases shall be stored in an adequate place, well ventilated under conditions of moderate temperature and Relative Humidity for does not offect the sensitivity of the primer.

- With the purpose to ascertain proper circulation of air between the primed empty cartridge cases packages and surrounding walls, the followings space are required:

  - 10 cm from the floor;
  - 40 cm from the walls and from the ceiling.

- The primed empty cartridge cases when stored in it original packages at:

  - temperature: 20-25 ºC (68-77 ºF);
  - Relative Humidity: 65-75%;

  have a shelf life of more 10 (ten) years.

- Long term storage up to the temeperature of + 37ºC is not cause of initiation of the primer.

- Keep the storage area clean. Make sure the surrounding area is free of trash or other readily combustible materials.

- Be sure the storage area is free from any possible sources of excessive heat and is isolated from open flame, furnaces, water heaters, etc. Do not store primes where they will be exposed

to the direct rays of the sun. Avoid storage in areas where mechanical or electrical equipment is in operation.

- Do not store primed empty cartridge cases in the same area with solvents, flammable gases, or highly combustible materials.

- Do not smoke in areas where primed empty cartridge cases are stored. Place appropriate “NO SMOKING” signs in these areas.

- This product must not be stored with acids, ammonia, strong oxidizers, caustics, corrosive atmosphere, Explosives: Compatibility groups A and L.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1.Ingredients with limit values that require monitoring at the workplace:

Chemical Component	ACGIH TLV/ TWA mg/m3
Copper	0.2 (b) 1.0 (c)
Zinc	NE
Barium Nitrate	0.5
Aluminium Powder	5
Antimony Sulfide	0.5
Lead Styphnate	0.05
Gum Arabic	NE
NE: Not Established. (a) - As fumes (b) - As dusts	

8.2. Engineering Controls

Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust ventilation Use hearing protection.

8.3.Personal protective equipment

8.3.1. Eyes / Face Protection:

Recommendable approved protective glasses.

8.3.2. Skin and body Protection:

Not normally required.

8.3.3. Respiratory Protection:

Not normally required. Use of approved respirator is recommended if the concentrations of fumes and/or dust exceed the TLV or PEL.

9- PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Cylindrical brass primed empty cartridge cases
Odor	: None
Odor Threshold	: Not Applicable
pH	: Not Applicable
Melting point/freezing point	: Not Applicable
Initial boiling point and boiling range	: Not Applicable
Flash point	: Not Applicable
Evaporation rate	: Not Applicable
Flammability (solid, gas)	: Not Applicable
Upper/lower flammability or explosive limits	: Not Applicable
Vapor Pressure	: Not Applicable
Vapor Density	: Not Applicable
Relative density	: Not Applicable
Solubility (ies)	: Insoluble
Partition coefficient: n-octanol/water	: Not Applicable
Auto-ignition temperature	: Not Applicable
Decomposition temperature	: Not Applicable
Viscosity	: Not Applicable

10- STABILITY AND REACTIVITY

10.1 Reactivity

No reactive under normal use conditions.

10.2 Chemical stability

Stable under normal use conditions of temperature and pressure. Not react with water.

10.3 Possibility of hazardous reactions

Individual cartridge may ignite if the primer is struck or the cartridge is exposed to excess heat. May ignite if heated above to 140º C (250ºF).

10.4 Conditions to avoid

Listed previously.

10.5 Incompatible materials

Acids, Alkalies, Ammonia, Strong Oxidizers, Caustics, Explosives: Compatibility Groups A and L.

10.6 Hazardous decomposition products

When ammunition is fired oxides of barium, lead, aluminium, nitrogen and carbon are produced. Lead fumes may also be produced (of fired primer mixture).

11- TOXICOLOGICAL INFORMATION

11.1 *Information on toxicological effects*

POTENTIAL EXPOSURE ROUTES: The physical nature of this product makes absorption from any route unlikely. A small amount of inhalable particles may be created when cartridge is fired.

11.1.1 Acute animal toxicity data:

For Product:		For Components		
		Copper	Zinc	Lead
Oral LD50	Not applicable for product	3.5 mg/kg (mouse intraperitoneal)	No Data	No Data
Dermal LD50	Not applicable for product	375 mg/kg (rabbit, subcutaneous)	No Data	No Data
Inhalation LD50	Not applicable for product. Particles generated from firing may be slightly toxic	No Data	No Data	No Data

For Product:		For Components		
		Copper	Zinc	Lead
Irritation	Not a skin or eye irritant as a loaded round	Respiratory irritant	Eye irritant	No irritating

11.1.2 Skin Corrosion/irritation

Contact of skin with cartridge presents no health hazard.

11.1.3 Serious eye damage/eye irritation

Contact with large volume of fumes may cause minor eyes irritation.

11.1.4 Respiratory or skin sensitization

Effects of respiratory or skin sensitization are not expected.

11.1.5 Germ cell mutagenicity

This product is not known or reported to be mutagenic. Lead has been shown to be mutagenic in several in vitro assays.

11.1.6 Carcinogenicity

The International Agency for Research on Cancer (IARC) lists lead as possibly carcinogenic to humans, group 2B.

11.1.7 Reproductive toxicity

This product is not known or reported to cause reproductive or developmental effects. Lead (fumes of fired primer mixture) has been shown to affect fetal development including birth defects and reduce male reproductive function in laboratory animals.

11.1.8 Specific target organ toxicity - single exposure

No data available.

11.1.9 Specific target organ toxicity - repeated exposure

No data available.

11.1.10 Aspiration hazard

No data available.

11.1.11 Additional Information

None known or reported.

12- ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

No data is available on this product. Individual components are as follows:

Copper: The toxicity of the copper to aquatic organisms varies not only with the species, but also with the physical and chemical characteristics of the water, such as the temperature, hardness, turbidity and carbon dioxide contents. Have been found for various investigators that concentration of the copper varying from 0,1 to 1,0 mg/l to be not toxic for most fishes. Concentrations of 0,015 to 3,0 mg/l have been reported as toxic, particularly in soft water to many kinds of fishes, crustaces, mollusks, insects and plankton.

Lead: LC50 (48h) to bluegill (lepomis macrochirus) is reported to be 2- 5 mg/l. Lead toxic for water fowl.

Zinc: Concentrations of zinc greater than 0,13 mg/l have been reported as lethal to the fishes. The presence of copper appears to have a synergetic effect on the toxicity of zinc towards the fishes.

12.2Mobility:

Dissolved lead from degraded bullets may migrate through soil.

12.3 Persistence / Degrability:

Not biodegradable bullets may fragment and decompose in soil leading to accumulation of lead.

12.4 Bioaccumulation:

No data. No reporting is required if diameter of metal is equal or exceeds 100 micrometers (0.004 inches).

12.5 Other adverse effects:

No data available.

13- DISPOSAL CONSIDERATIONS

13.1 Product

The only proper disposal method for scrap is to incinerate in small amounts in a burner specifically designed for destroying the primes. The only proper disposal method for scrap ammunition is to incinerate is small amounts in a burner specifically designed for destroying hazardous ammunition.

After primed empty cartridge cases has been destroyed by proper incineration, the remaining scrap should be disposed of in accordance with local, state and federal codes, which govern disposal

13.2 Packing:

Empty containers of cartridges (drawer, external box) must be destroyed and sent to collection.

13.3 Other information:

The user of this material has the responsibility to disposed the unused material, residues and containers in compliance with local, state and federal laws and regulations regarding treatment storage and non hazardous material.

14- TRANSPORT INFORMATION

14.1 IATA – VIA AIR

Proper Shipping Name	:	Cases, cartridge, empty with primer
UN Nº	:	0055
Class	:	1.4S
Subsidiary Risk	:	-
Hazard Label	:	Explosive 1.4S
Packing Group	:	II
Passenger Aircraft	:	Pkg Instr. -136 Max Net Qty/Pkge - 25Kg
Cargo Aircraft	:	Pkg Instr. -136 Max Net Qty/Pkge - 100Kg

14.2 IMDG – VIA SEA

Proper Shipping Name	:	Cases, cartridge, empty with primer
UN Nº	:	0055
Class	:	1.4S
Subsidiary Risk	:	-
Hazard Label	:	Explosive 1.4S
Packing Group	:	-
Packing Instructions	:	P136
EmS Nº	:	F-B, S-X
MFAG Table Nº	:	See IMO-MFAG
Stowage Segregation	:	Category 05

14.3 VIA LAND

Proper Shipping Name	:	Cases, cartridge, empty with primer
UN Nº	:	0055
Class	:	1.4S
Subsidiary Risk	:	-
Hazard Label	:	Explosive 1.4S
Packing Group	:	II
Packing Instructions	:	P136

14.4 Special precautions for user

No data available.

15- REGULATORY INFORMATION

This Material Safety Data Sheet has been prepared in Compliance with:

- REACh regulation: Regulation (EC) Nº 1907/2006 of the European Parliament of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals, as amended
- ST/SG/AC.10/1/Rev. 18th – Recomendations on the Transport of Dangerous Goods – Model Regulations
- IATA – "*Internacional Air Transport Association*" - Dangerous Goods Regulations – 55th Edition – 2014
- IMO – "*Internacional Maritime Organization*". Inernational Maritime Dangerous Goods Code (IMDG CODE) – 2012 Edition
- ICAO – "*International Civil Aviation Organization"* – Doc 9284-NA/905
- Ficha de Informações de Segurança de Produtos Químicos - FISPQ (Safety Data Sheet for Chemical Products) – NBR 14725 – of August 2012 – Associação Brasileira de Normas Técnicas
- ADR- "*Accord européen relatif au transport international des marchandises Dangereuses par Route"* – 2013 Edition

This SDS is applicable only to the products identified herein and only when used properly

16- OTHER INFORMATION

16.1 Information contained in this SDS are based on the present state of our knowledge and experience and are intended to describe our product with respect to possible safety demands. The information's are not be considered as a warranty of quality specification.
Eventual risks could occur by using the product for any application for which it has not been designed.

16.2 The user of the product must decide what measures are necessary to safety use of the product, either alone or combinations with other products and determine its environmental regulatory compliance obligations under any applicable Federal, State or Local laws and regulations.

16.3 The user is responsible to pass to all the users and technicians the suitable safety data and warnings concerning the risks mentioned in all documentation about the use of the product.

16.4 The user is not exonerate to check if other obligations have to be implemented due to inner land regulations or regulations inside his company concerning detention and manipulation of the product for which he is solely responsible.

16.5 The conditions or methods of handling, storage or use and disposal of the product are beyond CBC´s control and may be beyond CBC´s knowledge.
For these reasons, CBC does not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of in any way connected with the handling, storage, use or disposal of the product.

16.6 The Statements and recommendations contained in this SDS do not supersede local, state or federal lass or Regulations. Proper authorities should be consulted on laws and regulation in storage, handling or transportation and use of Powder Smokeless- Double Base in each specific community.

16.7 Abbreviations and Definitions

ACGIH	American Conference of Governmental Industrial Hygienists
CAS Nº	Chemical Abstracts Service Numbers
EMS	Emergency Schedules
HMIS	Hazardous Material Information System
LC_{50}	Lethal Concentration 50 percent kill
LD_{50}	Lethal Dose 50 percent Kill
LEL	Lower Explosive Limit

16.7 Abbreviations and Definitions

MFAG	Medical First Aid Guide
NA	Not Applied
NE	Not Established.
ND or NS	Not Defined or Not Specified
NFPA	National Fire Protection Association
OSHA	Occupational Safety Health Administration
PEL	Permissible Exposure Level
ppm	Parts per million
REACH	Registration, Evaluation, Authorization and Restriction of Chemical
STEL	Short Term Exposure Limit
TDM	Toxic Dose Level
TLV	Threshold Limit Value
TWA	Time Weighed Average
UEL	Upper Explosive Limit
UNO	United Nations

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