SAFETY DATA SHEET

SMALL CALIBER AMMUNITION

Rimfire cartridge with inert projectile

TABLE OF CONTENTS

1 PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier
Rim fire rifle and pistol cartridge, inert projectile, contains NC-propellant

1.2 Relevant identified uses
Small arms ammunition

1.3 Details of the supplier of the safety data sheet
Company / Manufacturer: Nammo Schönebeck GmbH
Company address: Wilhelm-Dümling-Str. 12, D-39218 Schönebeck / Elbe
Telephone number: Int. +49 3928 729 100
Telefax number: Int. +49 3928 729 111
Internet address: www.lapua.com, www.nammo.com,
E-mail address of competent person: Achim.Brenner@nammo.com
Safety adviser for the transport of dangerous goods : +49 3928 729 104

1.4 Emergency telephone number:
Use your national or local emergency number.
In Germany, Poison information center Berlin +49 30 19240
Bonn +49 228 2873211
Erfurt +49 361 730730

2. HAZARDS IDENTIFICATION

Do not disassemble, break or destroy the cartridge by violence.
The product is composed of finished metal parts which completely seal the cartridge. Therefore, under normal handling of this product, no exposure to harmful materials will occur.
When the ammunition is fired, a small amount of particles will be generated and they may be slightly irritating to the eyes and respiratory tract. The particles may contain trace amounts of substances like copper, zinc and lead. Gases like CO_x and NO_x are also generated. When shooting indoors, good ventilation that extracts gases forward from the shooter is required.

2.1 Classification of the substance or mixture
Classification according to CLP-regulation (EC) no. 1272/2008 [CLP]
Explosive; H204.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 [CLP]
Hazard pictograms:
GHS01: Explosive

Signal word: WARNING
Hazard statements:
H204: Fire or projection hazard

Precautionary statements:
P102: Keep out of reach of children
P210: Keep away from heat/sparks/open flames/hot surface – No smoking.
P250: Do not subject to grinding/shock/friction.
P401: Store in its original packaging.

2.3 Other hazards

This article contains hazardous substances or mixtures not intended to be released under normal or reasonable foreseeable conditions of use.
This article can be ignited by heat, sparks, flames or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).
The dismantling of this article is prohibited.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1/2 Substance/mixture

The product is comprised of four components. Typically, in rifle ammunition, case corresponds to 20 %, bullet 77 %, powder 2% and primer 1 % of the weight. So the minor elements of powder and primer make up a very small fraction of the compounds in the loaded cartridge. The hazardous ingredients contained in each are listed:

1. **Projectile**:, Lead, Antimony
2. **Case** (Brass): Copper, Zinc
3. **Propellant**: Nitrocellulose, Diphenylamine, Graphite,
4. **Primer**: Lead Styphnate, Barium nitrate, Lead (II)-oxide, Tetrazene, Glass ground,

Substances:

Components	% approx. by weight	CAS Number	Classification according to Regulation (EC) No 1272/2008 (CLP)
Copper	14	7440-50-8	H410
Zinc	6	7440-66-6	H250, H260, H411
Nitrocellulose	2	9004-70-0	H203
Graphite	< 0.5	7440-44-0	H200, H300, H310, H330, H373, H411
Lead	76	7439-92-1	EUH201, H302, H332, H351, H360Df, H400, H410
Antimony	1	7440-36-0	H411
Lead Styphnate	< 0.1	15245-44-0	H200, H201, H302, H332, H360Df, H373, H410, H412
Barium Nitrate	< 0.1	10022-31-8	H272, H332, H302, H319
Diphenylamine	< 0.1	122-39-4	H301, H311, H331, H373, H410
Tetrazene	< 0.1	109-27-3	H201, H312, H319

3.3 H-phrases

See full text of H-phrases in chapter 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation

If inhaling vapors from fire: Fresh air, rest. Get medical attention.
In case of irritation from the gases and particles during normal use of product: Fresh air, rest.
In case of unconsciousness, keep the person in side-lying position for transport to the hospital.

Skin contact

In case of contact with the product´s interior components, take off contaminated clothing. Wash skin with soap and water.

Eye contact

In case of contact with the product´s interior components, rinse with water. Get medical attention if irritation persists.

Ingestion

Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Can cause headache, dizziness, nausea, and hypotension
Lead is classified as a carcinogen by IARC.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media:	Water, water spray
Unsuitable extinguishing media:	None known.

5.2 Special hazards arising from the substance or mixture

Burning produces gases containing carbon monoxide and nitro fumes. Risk of lung damage during continuous exposure. In case of a fire, high risk of splinters.

5.3 Advice for firefighters

Extinguish with water from a protected position. Flame resistant fully covered clothing. Respiratory protection mask when working in smoke.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Not applicable for a complete sealed cartridge.

6.2 Environmental precautions

Prevent from entering sewers or the immediate environment (groundwater).

6.3 Methods and material for containment and cleaning up

Collect using non-sparking tools, reuse if undamaged or otherwise keep for disposal by experts.
Remove all sources of ignition.

6.4 Reference to other sections

For information on safe handling see section 7, the protective equipment section, and for waste disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid formation of dust. Ensure good ventilation at the workplace. No smoking, flames, sparks or welding. Prevent static electricity. Use power tools and appliances rated for explosives. Use tools that prevent sparking. Avoid striking the rim of unchambered cartridges or shocking during handling, storage, or use. If possible, keep eye washes nearby. A bullet of the fired cartridge has an long range, and can cause serious injury or death. Always be sure of the backstop, and practice safe muzzle control at all times. Avoid firing at surfaces that could result in ricochet, such as water, rocks or any other hard or flat surfaces. Avoid breathing fumes during the firing.

7.2 Conditions for safe storage, including any incompatibilities
Store in a cool and dry room at a safe distance from sources of ignition. No smoking. Protect against static electricity, shock, and friction. Keep only in facilities intended for explosives. Keep out of reach of children.

7.3 Specific end use(s)
Uses according to section 1.2.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Not relevant for this product.

8.2 Exposure controls

Personal protective equipment
Respiratory Protection: In case of dust use particle filter mask P2.
Ventilation: Local exhaust ventilation is recommended if significant dusting occurs. During shooting, burning powder and primer produce harmful compounds, such as, e.g., lead, copper, zinc, carbon monoxide and NO_x. Risk is especially high in poorly ventilated indoor shooting ranges.

Hand protection:	Homologated gloves.
Eye protection:	Safety glasses with side protection.
Hearing protection:	Hearing protection recommended during shooting.
General Hygiene:	Do not eat, drink or smoke while using this product. Wash hands thoroughly after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Cartridge shaped, metallic solid body
Odour:	None
Melting point: :	Not available
Boiling point:	Not available
Flash point:	Not available
Ignition temp:	Approximately 170^{o} C
Relative density(g/m^3):	Not available
Solubility in water:	Insoluble in original packaging or as a complete cartridge. Damaged cartridge can leak water-soluble components.

9.2 Other information:

10. STABILITY AND REACTIVITY

10.1 Reactivity
The product reacts to friction, shock or heat.

10.2 Chemical stability
The product is stable at normal handling and storage (room temperature) conditions.

10.3 Possibility of hazardous reactions
The product is combustible. Risk of explosion.

10.4 Conditions to avoid
Avoid heat, flames, static electricity and other ignition sources.

10.5 Incompatible materials
Oxidizing agents, acids, alkalis and amines.

10.6 Hazardous decomposition products
Toxic gases and fumes generated in case of fire, including nitrous gases and carbon monoxide among others.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	No toxicological effects from the complete cartridge. Damaged cartridge can leak components that can cause the following effects; Inhalation: - Skin contact: May irritate Eye contact: Dust may irritate eyes Ingestion: Toxic

Skin corrosion/irritation:	Not classified.
Serious eye damage/irritation:	Not classified.
Respiratory or skin sensitisation:	Not classified.
Germ cell mutagenicity:	Not classified .
Carcinogenicity:	Not classified.
Reproductive toxicity:	Not classified.
Specific target organ toxicity - single exposure:	Not classified.
Specific target organ toxicity – repeated exposure:	Not classified.
Aspiration hazard:	Not classified.

Lead is slowly absorbed by ingestion and inhalation and poorly absorbed through the skin. If absorbed, it will accumulate in the body with low rates of excretion, leading to long-term build up. There is some evidence that inorganic lead compounds may have a carcinogenic effect, and they have been classified by IARC as probably carcinogenic to humans (Group 2A). However, this classification is not considered applicable to lead in articles, given the very low bioavailability of metallic lead. Carcinogenicity studies of lead metal powder have been negative.

Epidemiology studies of workers exposed to inorganic lead compounds have found a limited association with stomach cancer. IARC has concluded that lead metal is possibly carcinogenic to humans (Group aB).

Exposure to high levels of inorganic lead compounds may cause adverse effects on male and female fertility, including adverse effects on sperm quality. Prenatal exposure to inorganic lead compounds is also associated with adverse effects on the development of the unborn child. There is evidence that neurobehavioural development in children is affected by exposure to lead.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No toxicological effects from the complete cartridge. Damaged cartridge can leak components that can cause eco toxicological effects. Individual constituents are as follows;

Copper: The toxicity of copper to aquatic organisms varies significantly not only with the species, but also with the physical and chemical characteristics of the water, such as its temperature, hardness, turbidity, and carbon dioxide content. Copper concentrations varying from 0,1 to 1,0 mg/l have been found by various investigators to be not toxic for most fish. However, concentrations of 0,015 to 3,0 mg/l have been reported as toxic, particularly in soft water, to many kinds of fish, crustacean, molluscs, insects, and plankton.
Nitrocellulose: LC 50 > 1000mg/l (fish, invertebrates, algae)
Zinc: The following concentrations of zinc have been reported as lethal to fish:

Rainbow trout fingerlings: 0,13mg/l, 12 – 24 hours.
Bluegill sunfish: 6 hours TLM = 1,9 – 3,6 mg/l (soft water, 30ºC).
Rainbow trout: 4 mg/l (hard water) 3 days.
Sticklebacks: 1mg/l (soft water) 24 hours.

The presence of copper appears to have a synergistic effect on the toxicity of zinc in fish.
Lead: Lead in sheet or massive form is not a significant health hazard. However, melting or operations generating lead dust, fumes or vapour can result in sufficient lead entering your body to be hazardous to your health. Oxidation products (including lead compounds) may also form on the surface of metallic lead.

While lead metal is relatively insoluble, its processing or extended exposure in aquatic and terrestrial environments may lead to the release of lead compounds in more bioavailable forms. While lead compounds are not particularly mobile in the aquatic environment, they can be toxic to aquatic organisms, especially fish, at low concentrations. Water hardness, pH and dissolved organic carbon content are three major factors that regulate the degree of lead toxicity. Lead in soil is generally neither very mobile nor bioavailable, as it can become strongly absorbed into soil particles, increasingly so over time, to a degree related to physical properties of the soil. Lead bioaccumulates in plants and animals in both aquatic and terrestrial environments.

12.2 Persistence and degradability

Not applicable.

12.3 Bioaccumulative potential

Not applicable.

12.4 Mobility in soil

Not applicable.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects
No harmful effects are expected if used properly. The contained ingredients can be harmful for the environment, but they are enclosed in the article and cannot be released. The product should not be allowed to enter drains or water-sources.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
The waste must be disposed of in accordance with Directive 2008/98/EC and other national and local regulations. May not be mixed with other waste.

Waste must be classified as hazardous in accordance with regulation (SFS 2001:1063).
Proposal for waste code: 16 04 01 discarded ammunition.

14. TRANSPORT INFORMATION

Regulation	Cartridge	Classification code/UN-number	UN proper shipping name	Class	Packing group
ADR/RID IMDG ICAO/IATA	All rimfire cartridges, inert projectile	1.4S/0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1	II

LQ: 5 kg.

Tunnel: E

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This product is classified and labeled according to European Union regulations or respective national laws.
Pressure Equipment (Amendment) Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended).
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (as amended). Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). EC regulation 1907/2006 (REACH) Directive 2000/532/EC. Seveso directive: 96/82/EC. EU 453/2010.

15.2 Chemical safety assessment
A chemical safety assessment has not been conducted on this product.

16. OTHER INFORMATION

This SDS has been compiled and is solely intended for this product.

Do not disassemble, break or destroy the cartridge by violence.

This information is based upon the present state of our knowledge

- EUH201- Contains lead. Should not be used on surfaces liable to be chewed or sucked by children
- H200: Unstable explosive
- H201: Explosive; mass explosion hazard
- H203: Explosive; fire, blast or projection hazard
- H250: Catches fire spontaneously if exposed to air
- H260: In contact with water releases flammable gases which may ignite spontaneously
- H272: May intensify fire; oxidizer
- H300: Fatal if swallowed
- H301: Toxic if swallowed
- H302: Harmful if swallowed
- H310: Fatal in contact with skin
- H311: Toxic in contact with skin
- H312: Harmful in contact with skin
- H319: Causes serious eye irritation
- H330: Fatal if inhaled
- H331: Toxic if inhaled
- H332: Harmful if inhaled
- H351: Suspected of causing cancer
- H360Df: 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
- H412: Harmful to aquatic life with long-lasting effects