

**SAFETY DATA SHEET**

# FULMINANTE COMÚN

## (PLAIN DETONATOR)

**Section 1: Product Identification**

Product Trade Name:	PLAIN DETONATOR No. 6 - 45 mm, PLAIN DETONATOR No. 8 - 45 mm, PLAIN DETONATOR No. 10 - 45 mm, PLAIN DETONATOR No. 12 - 45 mm
Generic Name by SUCAMEC:	FUSE DETONATOR OR PLAIN DETONATOR
Recommended Use and Restrictions:	The PLAIN DETONATOR is designed to be initiated by the spark of a Safety Fuse. The handling temperature range of the PLAIN DETONATOR is from 0°C up to 50°C. For different temperatures it is recommended to contact the Technical Assistance area.

**Provider Information**

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**Section 2: Hazards Identification**
**Substance or Mixture GHS Classification**

Non-electric detonators for blasting UN Number 0029 Class or Division 1.1B	Non-electric detonators for blasting UN Number 0455 Class or Division 1.4 S
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Description	Hazard Identification
Physical Hazards } Explosives 1.1 Explosives 1.4	H201 Mass explosion hazard H204 Fire or projection hazard
Health Hazards } Acute Ingestion Toxicity, Cat. 2	H300 Fatal if swallowed.
Environmental Risks } Short-term hazard to the aquatic environment, Cat. 1 Long-term aquatic hazard, Cat. 1	H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

**Signal Word:** Hazard.

**GHS Label Element**


**Cautionary Advice**
**In terms of prevention**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not smoke.
P240	Grounding and equipotential bonding of the vessel and the receiving equipment.
P250	Do not subject to shock and/or friction.
P264	Carefully wash parts exposed to the explosive after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, eye and ear protection.

**In the event of interference**

P318	IN CASE OF PROVEN or SUSPECTED EXPOSURE: Get medical advice/attention.
P321	Specific treatment.
P391	Collect spillage.
P301 + P316	IF SWALLOWED: seek immediate emergency medical attention.
P370 + P372 + P380 + P373	In case of fire: Risk of explosion. Evacuate area. DO NOT fight fire when fire reaches explosives.

**For storage**

P401	Store in accordance with local and manufacturer's regulations.
P405	Store locked up.

**For disposal**

P501	Dispose of contents in accordance with local regulations.
P503	Ask the manufacturer for information on disposal.

**Other hazards**

No information is available.

**Section 3: Composition / Information of components**

Chemical Identity	Common Name	CAS Number	Concentration
Pentaerythrite tetranitrate (PETN)	Not Applicable	78-11-5	≤ 80 %
Lead Azide	Not Applicable	13424-46-9	≤ 20 %
Lead Styphnate	Not Applicable	15245-44-0	≤ 20 %

**Section 4: First Aid Measures**

Because the explosive is packaged inside an aluminum capsule, it normally prevents any significant exposure. But if contacts with the explosive substance are suspected, consider the following:

**Inhalation:** Remove the victim from the area of exposure. Place the patient in the most comfortable position and keep him/her warm and at rest until fully recovered. Seek medical help if discomfort persists.

**Skin Contact:** Wash exposed skin with plenty of soap and water. If irritation develops, seek medical attention.

**Eye Contact:** Immediately flush if possible with lukewarm water for at least 15 minutes, then get medical attention.

**Ingestion:** Call physician immediately.

**Most important symptoms / effects:** Decreased blood pressure, headaches, dizziness, blurred vision.

**Most acute symptoms / effects:** Irritation.

**Delayed symptoms / effects:** Seek medical attention if they occur.

**Immediate indications and special treatment:** No information is available.

**Section 5: Fire-fighting measures**

**Suitable extinguishing media:** Do not fight fire. Evacuate area immediately, prevent access, do not breathe fumes from fire.

**Specific hazards of the chemical:** If combustion exists alone or in conjunction with other materials, toxic fumes may be produced, avoid inhalation of fumes generated by fire.

**Special protective equipment and special precautions for firefighting equipment:** Evacuate area in all directions 1.6 km or more. Allow fire to burn out. Do not allow personnel to pass. Clear area.

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## Section 6: Measures to be taken in case of accidental release

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**Personal Precautions:** Only trained and authorized personnel must take actions in emergency situations.

**Personal Protective Equipment:** Gloves, safety glasses with side protection, work clothes, safety shoes.

### Emergency Procedures:

- Restrict access to the spill area.
- Remove sources of heat and ignition.
- Do not allow access to unauthorized personnel.
- Minimize the number of people in the risk area.
- All equipment used in handling the spill should be grounded.
- Use non-sparking equipment and tools when handling the material.
- Do not touch or walk over spilled material.

**Environmental precautions:** Take precautions to prevent contamination of streams and drains.

**Methods and materials for isolation and cleaning up:** Spilled material should be placed in properly identified containers, do not use metal objects or any tools that may produce sparks. Place the product in marked containers. Decontaminate the spill area. Dispose of the material under supervision of qualified personnel.

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## Section 7: Handling and Storage

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### Precautions for Safe Handling

**Operational and Technical Measures to avoid exposure:** This product must be handled by qualified and authorized personnel in the use of this product.

**Other precautions:** 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 before leaving work. . The handling temperature range of the PLAIN DETONATOR is from 0°C to 50°C.

### Storage Conditions

**Conditions for Safe Storage:** It will be stored only with compatible products. The place or silo destined for storage must comply with all the requirements established by the regulations in force. It must be stored at temperatures between 0°C and 30°C, located in safe, well ventilated, dry areas, protected from rain and heat.

**Incompatible Substances and Mixtures:** Do not store with corrosive, volatile, combustible, acid and base chemical substances, or metallic elements.

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## Section 8: Exposure control / personal protection

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### Control parameters

Chemical Identity	TWA	STEL	NOTE
Pentaerythrite tetranitrate (PETN)	No information is available	No information is available	No information is available
Lead Azide	0.05 mg (Pb)/m <sup>3</sup>	No information is available	VLB
Lead Styphnate	0.05 mg (Pb)/m <sup>3</sup>	No information is available	VLB

VLB: They are reference values for biological values, associated to the global exposure of chemical agents (DS 015- 2005 MINSAs).

### Appropriate engineering controls

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Apply engineering measures to comply with occupational exposure limits. Eye drop stations. Ventilation system.

If safe exposure levels could be exceeded in the handling and application of this material, engineering controls such as local exhaust ventilation should be considered. If safe exposure levels are achieved, engineering controls are not required, following a detailed and documented risk assessment using personnel.

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#### **Personal Protective Equipment (PPE)**

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**Eye Protection:** Safety glasses fitted to the contour of the face that meet ANSI/ISEA Z87.1-2015 requirement.

**Skin and Body Protection:** Safety clothing and footwear should be appropriate according to current regulations, e.g. cotton uniform to avoid static charge build-up.

**Respiratory Protection:** Wear protection that complies with OSHA 29 CFR. 1910.134 and ANSI Z88.2 or European Standard EN 149.

**Thermal Hazards:** Not applicable.

**Hand Protection:** The use of protective gloves made of impermeable material with chemical resistance is recommended. They may be made of nitrile or better, complying with the UNE-EN-420:2004 standard.

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### **Section 9: Physical and chemical properties**

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**Physical State:** Solid explosive substance. Cylindrical aluminum capsule closed at one end that houses the primary and secondary explosive charges.

**Color:** Silver.

**Odor:** Not applicable.

**Melting Point / Freezing Point:** Not applicable.

**Boiling point or initial boiling point and boiling range:** Not applicable.

**Flammability:** Not applicable.

**Lower and upper explosion limit / flammability limit:** No information is available.

**Flash Point:** No information is available.

**Autoignition Temperature:** No information is available.

**Decomposition Temperature:** No information is available.

**pH:** Not applicable.

**Kinematic Viscosity:** No information is available.

**Solubility:** Insoluble in water.

**Partition coefficient n-octanol/water (logarithmic value):** No information is available.

**Vapor Pressure:** No information is available.

**Density (g/cm<sup>3</sup>):** Not applicable.

**Vapor relative density (air=1):** No information is available.

**Particle Characteristics:** No information is available.

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### **Section 10: Stability and Reactivity**

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**Reactivity:** Explosive

**Chemical Stability:** Stable under normal conditions of recommended temperature and use. May combust when subjected to direct fire.

**Possibility of Hazardous Reactions:** None, provided that recommended handling, transport, storage and usage requirements are met.

**Conditions to Avoid:** Do not expose to high temperatures (above 65°C), fire, impact, friction, electric current and electrostatic discharge.

**Incompatible Materials:** Incompatible with strong acids and bases, fuels, nitrites, reducing agents.

**Hazardous Decomposition Products:** Ammonia (NH<sub>3</sub>), Oxides of nitrogen (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

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## Section 11: Toxicological Information

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**Acute Toxicity (DL 50, CL 50):** No information is available.

**Corrosion / Irritation:** None under normal handling conditions.

**Serious Eye Damage/Eye Irritation:** May cause eye irritation.

**Respiratory or skin sensitization:** May cause respiratory sensitization.

**Germ Cell Mutagenicity:** No information is available.

**Carcinogenicity:** No information is available.

**Reproductive Toxicity:** No information is available.

**Specific Target Organ Systemic Toxicity – Single Exposure:** No information is available.

**Specific Target Organ Systemic Toxicity – Repeated Exposures:** No information is available.

**Aspiration Hazard:** No information is available.

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## Section 12: Ecotoxicological Information

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**Ecotoxicity** Avoid contact with waterways and soils.

**Persistence and Degradability:** No information is available.

**Bioaccumulative Potential:** No information is available.

**Soil Mobility:** No information is available.

**Other adverse effects:** Avoid spillage on soils, plants and over any water source.

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## Section 13: Information regarding the disposal of products

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**Recommended and approved methods for safe disposal:** All waste must be handled according to national regulations. Small quantities or deteriorated explosives can be destroyed by placing them in an auger containing a good explosive. For large quantities of damaged or deteriorated explosives, please notify Famesa Explosivos S.A.C.

**Recommended and approved methods for disposal of contaminated containers/packaging:** Burn under controlled conditions while strictly following national procedures.

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## Section 14: Transport Information

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Mode of transport applied	Road	Sea	Air
National and international regulations	SUCAMEC / Law 28256	IMO / IMDG	IATA / DGR
UN Number	0029	0029	0455 (*)
Proper UN Shipping Name	Non-electric detonators for blasting	Non-electric detonators for blasting	Non-electric detonators for blasting
Transport classification	1.1B	1.1B	1.4 S
Label			
Packaging group	II	II	II

Environmental hazards	No information is available	No information is available	No information is available
Bulk transport according with IMO instruments	Not Applicable	Not Applicable	Not Applicable

(\*) Applies to Plain Detonator No. 8 - 45 mm

## Section 15: Regulatory Information

### National Regulations

- Regulation on the Control of Explosives for Civil Use – Peru (SUCAMEC)
- Law No. 28256: “Law regulating the Land Transportation of Hazardous Materials and Hazardous Wastes”.

### International Regulations

- Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 8th version.
- International Maritime Dangerous Goods Code (IMDG Code), IMO, 2018 edition.
- Dangerous Goods Regulations (DGR), IATA, Issue 62.

## Section 16: Other Information

This safety data sheet has been prepared by professionals from the areas of Industrial Safety, Environment, Quality Control, Research and Development and the Occupational Physician of Famesa Explosivos.

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### Abbreviations and Acronyms

DL50 – Lethal dose for 50% of the population tested.

CL50 – Lethal concentration for 50% of the population tested.

UN - United Nations Organization.

BOD - Biochemical Oxygen Demand.

TWA - Time Weighted Average Concentration.

CAS - Number associated with a chemical.

PBT - Persistent, Bioaccumulative and Toxic Substances.

vPvB - Very Persistent and Very Bioaccumulative Substances.

### Disclaimer of Liability

Famesa Explosivos S.A.C., hereinafter Famesa, has prepared this safety data sheet based on our extensive knowledge at the date of issue, on chemical health hazards, material safety and general guidance on how to handle the material safely in the workplace. Since Famesa cannot anticipate or control the conditions of use of the product, each user must, prior to handling, evaluate and control the risks of the product.

If you need clarification and/or further information, please contact FAMESA EXPLOSIVOS S.A.C. through our telephone and/or mail indicated in section 1 of this document.