SAFETY DATA SHEET

MECHA RÁPIDA (FAST FUSE)

Section 1: Product Identification

Product Trade Name:	FAST FUSE Z - 18, FAST FUSE Z - 19; FAST FUSE Z - 22.
Generic Name by SUCAMEC:	IGNITION CORD
Recommended Use and Restrictions:	FAST FUSE is a component of the traditional blasting initiation system, made of pyrotechnic mass, two wires and a plastic outer covering. The handling temperature range of the FAST FUSE is from 0°C up to 35°C.

Provider Information

Name:	FAMESA EXPLOSIVOS S.A.C.
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Section 2: Hazards Identification

Substance or Mixture GHS Classification

Fast burning fuse

UN Number 0066

Class or Division 1.4G

	Description	Hazard Identification
Physical Hazards	Explosives 1.4	H204 Fire or projection hazard
Health Hazards	Acute Ingestion Toxicity, Cat. 4	H302 Toxic if swallowed.
	Skin irritation, Cat. 3	H316 Causes mild skin irritation.
	Eye irritation, Cat. 2B	H320 Causes eye irritation.
	Respiratory sensitization, Cat. 2B	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	Carcinogenicity, Cat 2	H351 Suspected of causing cancer
	Specific Target Organ Systemic Toxicity – Repeated Exposures, Cat 1	H372 May cause damage to organs through prolonged or repeated exposure.
Environmental Risks	Hazard to the aquatic environment	H401 Toxic to aquatic life.

Signal Word: Danger, Caution.

GHS Label Element



Cautionary Advice

In terms of prevention	
P203	Be sure to read and follow all safety instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not smoke.
P234	Keep only in original packaging.
P250	Avoid abrasion, shocks or friction
P261	Do not breathe gases produced by combustion.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves, protective clothing and eye protection.
In the event of interference	
P318	IN CASE OF PROVEN or SUSPECTED EXPOSURE: Get medical advice/attention.
P330	Rinse mouth.
P301 + P317	IF SWALLOWED: seek medical attention.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342 + P316	If experiencing respiratory symptoms: Call a poison center or doctor/physician.
P332 + P317	In case of skin irritation: seek medical advice.
P305 + P351 + P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice.
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.
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
Nitrocellulose	Not Applicable	9004-70-4	≤ 20 %
Silicon	Not Applicable	7440-21-3	≤ 30 %
Lead Tetroxide	Not Applicable	1314-41-6	≤ 50 %
Dibutyl phthalate	Not Applicable	84-74-2	≤ 10 %
Diphenylamine	Not Applicable	122-39-4	≤ 5 %
Potassium perchlorate	Not Applicable	7778-74-7	≤ 30 %

Section 4: First Aid Measures

Inhalation: There is no form of exposure to the contents of the product. If combustion gases are inhaled, move to fresh air. If breathing is difficult or not breathing, give oxygen or artificial respiration as appropriate.

Skin Contact: If contact of pyrotechnic mass with skin occurs, wash with soap and water. If combustion causes burns, immediately cool affected skin with cold water for as long as possible. Do not remove clothing adhering to skin. Seek immediate medical attention.

Eye Contact: If eyes come into contact with the pyrotechnic mass, remove contact lenses if present, carefully lift eyelids and allow plenty of low-pressure water to flow for at least 15 minutes. Then give immediate medical attention.

Ingestion: If the contents of the product are swallowed, rinse mouth with water. If swallowed, give water to drink and seek medical attention (do not induce vomiting). If vomiting occurs spontaneously tilt the victim's head forward.

Most important symptoms / effects: None under normal handling conditions. If in constant and prolonged contact, the following symptoms may occur: Abdominal cramps, anemia, anxiety, insomnia, motor weakness, among others for which you should seek medical help if they should occur.

Most acute symptoms / effects: Accidental combustion of the accessory may cause burns and/or severe damage according to the amount of material involved.

Delayed symptoms / effects: None under normal handling conditions. If in constant and prolonged contact, the following symptoms may occur: Abdominal cramps, anemia, anxiety, insomnia, motor weakness, among others for which you should seek medical help if they should occur.

Immediate indications and special treatment: No information is available.

Section 5: Fire-fighting measures

Suitable extinguishing media: Do not attempt to fight the fire.

Specific hazards of the chemical: Gases generated from combustion of the product may include lead compounds, carbon monoxide and nitrogen oxides, which may be toxic. Avoid inhaling combustion gases.

Special protective equipment and special precautions for firefighting equipment: Evacuate area in all directions 800 m or more. Do not attempt to extinguish it. Evacuate personnel to a safe cool place, isolate area and allow product to be completely consumed.

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

Personal Precautions: Check for fire and explosion hazards, remove all ignition sources from the site, take normal safety precautions. Do not touch or walk over spilled material, or over the affected area in the absence of sufficient light. Minimize the number of people in the hazard area. Only qualified personnel should perform disposal of material.

Personal Protective Equipment: In case of exposure of pyrotechnic mass, use personal protective equipment indicated by the manufacturer; do not use equipment made of material that generates static charge or friction.

Emergency Procedures: Only personnel qualified in handling spills. Consult with the supplier at the emergency numbers indicated.

Environmental precautions: Collect spilled material immediately. Do not discharge material into rivers, lakes, tributaries, etc. Do not discharge into sewage system.

Methods and materials for isolation and cleaning up: Cleaning shall only be carried out by qualified personnel. It is recommended not to intervene in the absence of natural light; if necessary, sufficiently illuminate the affected area with elements with an autonomous power source with IP54 degree of protection. Carefully collect all the material that may have been scattered and place it in a container, which does not leak or have blows. Use safety tools that do not produce sparks and avoid direct contact with metal. In case part of the mass of the accessory has remained stuck on any surface, this should be removed by trained personnel, without forcing it, but rather wetting it with acetone to soften it and then remove it.

Section 7: Handling and Storage

Precautions for Safe Handling

Operational and Technical Measures to avoid exposure: The handling of this product must be carried out by authorized personnel trained in the handling of the explosive. Under no circumstances should you attempt to disassemble, cut or remove the product content. Before ingesting your food, you should perform adequate personal hygiene.

Other precautions: The handling temperature range of the FAST FUSE is from 0°C up to 35°C..

Storage Conditions

Conditions for Safe Storage: Fast Fuse should be stored in powder magazines at **temperatures between 0°C and 30°C**, located in safe, well ventilated, dry areas, protected from rain and heat. Also, the explosive inventory should be rotated, avoiding the use of new materials before using old ones. And it must be stored according to the current compatibility table of the relevant authority.

Incompatible Substances and Mixtures: This Fast Fuse will be stored only with compatible products. Do not store together with oxidizing, volatile, combustible substances, heat sources or metallic elements.

Section 8: Exposure control / personal protection

Control parameters

No values are recorded for this specific material; however, exposure limits are described, according to international standards, for the following components:

Lead tetroxide: TWA = 0.05 mg/m^3

Silicon: TWA = 10 mg/m^3

Appropriate engineering controls

The use of engineering controls such as ventilation should be considered. If safe exposure levels are achieved, engineering controls are not required.

Personal Protective Equipment (PPE)

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: Not required during handling. During the combustion, there is a risk of inhalation exposure, use flue gas respirator complying with ANSI/ASSE Z88.2 - 2015.

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.

Section 9: Physical and chemical properties

Physical State: Solid. It is a blasting accessory consisting of a continuous wire core impregnated with a pyrotechnic component and protected by a plastic cover.

Color: Brown colored pyrotechnic component.

Odor: No odor.

Melting Point / Freezing Point: Not applicable.

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

Flammability: Flammable product.

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: Not applicable.

Solubility: Not applicable.

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

Vapor Pressure: No information is available.

Relative Density (g/cm^3): Not applicable.

Vapor relative density (air=1): Not applicable.

Particle Characteristics: No information is available.

Section 10: Stability and Reactivity

Reactivity: Stable under normal conditions.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: No risk of spontaneous reaction.

Conditions to Avoid: Keep away from any direct heat source. Avoid flame, spark, friction or impact of any blunt body. Do not attempt to remove any material from inside the Fast Fuse.

Incompatible Materials: Corrosive, volatile, combustible, acid and base chemical substances.

Hazardous Decomposition Products: None, provided that recommended handling, transport, storage and usage requirements are met. If involved in a fire, generated gases may contain lead compounds, carbon monoxide and nitrogen oxides.

Section 11: Toxicological Information

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

Corrosion / Irritation: None under normal handling conditions. In some cases, prolonged contact with the explosive mass may cause mild skin irritation.

Serious Eye Damage/Eye Irritation: None under normal handling conditions.

Respiratory or skin sensitization: Flue gases 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.

Section 12: Ecotoxicological Information

Ecotoxicity Avoid discharge into soils and drains leading to rivers.

Persistence and Degradability: Not applicable.

Bioaccumulative Potential: Bioaccumulation foreseen.

Soil Mobility: No information is available.

Other adverse effects: This is a covered product that does not expose its contents under normal handling conditions.

Section 13: Information regarding the disposal of products

Recommended and approved methods for safe disposal: All waste should be handled in accordance with local state regulations. Any disposal treatment should be performed by qualified and licensed personnel.

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

Section 14: Transport Information

Mode of transport applied	Road	Sea	Air

National and international regulations	SUCAMEC / Law 28256	IMO / IMDG	IATA / DGR
UN Number	0066	0066	0066
Proper UN Shipping Name	Fast burning fuse	Fast burning fuse	Fast burning fuse
Transport classification	1.4G	1.4G	1.4G
Label			
Packaging group	Not Applicable	Not Applicable	Not Applicable
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

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.

TWA - Time Weighted Average Concentration.

CAS - Chemical Abstracts Service.

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.