

**SAFETY DATA SHEET**

# CONECTOR DE MECHA RÁPIDA (FAST FUSE CONNECTOR)

**Section 1: Product Identification**

Product Trade Name:	FAST FUSE CONNECTOR 45 mm.
Generic Name by SUCAMEC:	IGNITION CORD CONNECTOR
Recommended Use and Restrictions:	<p>The FAST FUSE CONNECTOR is used to ensure a correct fixation between the Fast Fuse and the Safety Fuse and therefore its safe initiation.</p> <p>Friction, shock, fire and other sources of ignition should be avoided as there is a risk of explosion which can cause serious injury, even fatal. The handling range of the Fast Fuse Connector is from 0°C to 35°C.</p>

**Provider Information**

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

Igniters  
UN Number 0325  
Class or Division 1.4G

Description		Hazard Identification
Physical Hazards	Explosives 1.4G	H204 Fire or projection hazard
Health Hazards	Acute Ingestion Toxicity, Cat. 4	H302 Toxic if swallowed.
	Skin irritation, Cat 3 <sup>b</sup>	H316 Causes mild skin irritation.
	Eye irritation, Cat. 2B	H320 Causes eye irritation.
	Respiratory sensitization, Cat.1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Environmental Risks	Carcinogenicity, Cat. 2	H351 Suspected of causing cancer
	Reproductive toxicity, Cat 1A	H360 May damage fertility or the unborn child.
	Specific Target Organ Systemic Toxicity – Repeated Exposures, Cat. 1	H372 Causes damage to organs through prolonged or repeated exposure.
	Long-term (chronic) aquatic hazard, Cat. 1	H410 Very toxic to aquatic life with long lasting effects.

**Signal Word:** Danger, Caution.

**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.
P234	Keep only in original packaging.
P250	Avoid abrasion, shock and friction.
P260	Do not breathe dust/fume/gas.
P261	Avoid breathing dust/fume/gas.
P264	Wash hands and face thoroughly 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 protection.
P284	In case of inadequate ventilation wear respiratory protection.

**In the event of interference**

P318	IN CASE OF PROVEN or SUSPECTED EXPOSURE: Get medical advice/attention.
P319	Seek medical advice if the person is unwell.
P301 + P317	IF SWALLOWED: Get medical attention.
P304 + P340	IF INHALED: Move the personnel outdoors and keep them in a position that facilitates breathing. Get medical attention.
P332 + P317	If skin irritation occurs: Get medical attention.
P342 + P316	If experiencing respiratory symptoms: Get immediate medical attention.
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 + P317	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.
P370 + P380 + P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P391	Collect spillage.

**For storage**

P401	Store according to local regulations.
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**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
Cellulose Nitrate	Nitrocellulose	9004-70-4	< 10%
Silicon	Silicon	7440-21-3	< 6%
Lead Tetroxide	Lead Tetroxide	1314-41-6	< 17%
Potassium nitrate	Potassium nitrate	7757-79-1	< 3%

Carbon	Carbon	1333-86-4	< 1%
Sulfur	Sulfur	7704-34-9	< 1%
Aluminum rod	Aluminum cap	7429-90-5	< 62%

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#### Section 4: First Aid Measures

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**Inhalation:** 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:** Wash with plenty of soap and water. Remove contaminated clothing immediately. 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:** Immediately flush with plenty of water for at least 15 minutes and seek immediate medical attention. If person wears contact lenses, remove and proceed with flushing.

**Ingestion:** Rinse mouth. Give plenty of water to drink, do not induce vomiting and seek medical help quickly. If vomiting occurs spontaneously tilt the victim's head forward.

**Most important symptoms / effects:** Abdominal cramps, anemia, anxiety, insomnia, motor weakness.

**Most acute symptoms / effects:** Accidental combustion of the accessory may cause burns.

**Delayed symptoms / effects:** Abdominal cramps, anemia, motor weakness.

**Immediate indications and special treatment:** Treat symptomatically and according to established protocols for Lead poisoning.

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#### Section 5: Fire-fighting measures

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**Suitable extinguishing media:** Do not attempt to fight the fire when explosive material is involved, evacuate the affected area immediately and avoid breathing toxic fumes. Water can be applied by spraying and without the presence of people.

**Specific hazards of the chemical:** Heat, fire, impact, friction, electric currents and electrostatic discharges can cause a violent reaction or explosion. Risk of mass explosion in case of fire.

**Special protective equipment and special precautions for firefighting equipment:** Evacuate area in all directions 800 m or more. Clear the area and evacuate personnel to a safe place. To control the fire before explosives intervene, personnel should wear positive pressure self-contained breathing apparatus (SCBA) and full protective equipment. Only personnel trained in emergency situations must take action.

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

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**Personal Precautions:** Verify fire and explosion risks, take regular safety precautions. Only trained and authorized personnel must take actions in emergency situations. Keep explosive material away from sources of ignition, heat, sparks, open flames, hot surfaces.

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

**Emergency Procedures:**

- Restrict access to the spill area.
- Evacuate the surrounding area.
- Do not allow unnecessary and unprotected personnel to enter.
- Do not touch or walk over spilled material.
- Shut off all sources of ignition.
- Do not use flares, smoke or flames in the risk area.
- Provide adequate ventilation.

**Environmental precautions:** Environmental exposure is unlikely to occur, but in case of spillage, entry into sewers and public waters should be avoided. The product must be moistened with water, collected using a tray and a non-sparking shovel. Do not use open flame near the spill site.

**Methods and materials for isolation and cleaning up:** First ensure that there are no sources of ignition, then carefully collect the material and place it in suitable containers using non-sparking tools, as long as it is not broken or bruised. In case the product is

damaged or broken, please contact Famesa Explosivos' emergency telephone number. Be careful not to hit, cut or damage the product. The appropriate authorities should be notified.

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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. Handle with extreme care, bearing in mind that Fast Fuse Connectors are sensitive under certain conditions of shock, friction, sparks and fire. Under no circumstances should you attempt to disassemble, cut or remove the product content. For cutting, do not use serrated elements (saw blade or knife with teeth) or shears; use well sharpened flat-edged elements on a suitable surface (not metallic or with metallic elements, nor on stones), preferably lined with rubber or other material that avoids sparks and according to the established procedure (a single cutting pass). The handling range of the Fast Fuse Connector is from 0°C to 35°C.

**Other precautions:** It is forbidden to eat, drink or smoke in places where this product is handled, stored or treated.

### Storage Conditions

**Conditions for Safe Storage:** It will be stored only with compatible products, according to local and state regulations. It should be stored in powder magazines at temperatures between 0°C to 30°C, located in safe, well ventilated, dry areas, protected from heat. This powder magazine must comply with all the requirements established by current regulations and must be electrically grounded.

**Incompatible substances and mixtures: keep away from incompatible materials,** combustible substances, oxidizing agents, reducing agents, acids and alkalis.

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## Section 8: Exposure control / personal protection

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### Control parameters

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

Product Name	Permissible exposure limit (OHS PEL-TWA)	Tolerable limit value (ACGIH TLV-TWA)
Silicon	15 mg /m <sup>3</sup>	10 mg /m <sup>3</sup>
Lead Tetroxide	0.05 mg (Pb)/m <sup>3</sup>	0.05 mg (Pb)/m <sup>3</sup>
Aluminum	5 mg /m <sup>3</sup>	1 mg /m <sup>3</sup>

### Appropriate engineering controls

Ventilation system, not in direct contact with sunlight. Emergency eyewash fountains and safety showers should also be available in the vicinity of any potential exposure. Proper grounding procedures must be followed to avoid static electricity.

### 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:** Clothing should be appropriate according to current regulations, e.g. cotton uniform to avoid accumulation of static charges; antistatic safety shoes.

**Respiratory Protection:** None, under normal handling conditions.

**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. Cylindrical aluminum capsule closed at one end that houses a pyrotechnic charge inside, it has a groove at this end, where the Fast Fuse will be placed for its safe connection.

**Color:** Silver gray (aluminum capsule).

**Odor:** Odorless.

**Melting Point / Freezing Point:** No information is available.

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

**Flammability:** Not applicable.

**Lower and upper explosion limit / flammability limit:** Not applicable.

**Flash Point:** Not applicable.

**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):** Not applicable.

**Vapor Pressure:** Not applicable.

**Relative density:** Not applicable.

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

**Particle Characteristics:** Not applicable.

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## Section 10: Stability and Reactivity

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**Reactivity:** Explosive

**Chemical Stability:** The product is stable under normal storage and handling conditions.

**Possibility of Hazardous Reactions:** A major fire may involve an explosion hazard. An adjacent detonation may also involve an explosion hazard. A massive explosion can occur due to shock, friction, fire or other ignition sources. Explosion creates the projection of shrapnel.

**Conditions to Avoid:** Do not expose to high temperatures, fire, impact, friction, electric current and electrostatic discharges. Do not attempt to remove the pyrotechnic charge from inside the Fast Fuse Connector.

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

**Hazardous Decomposition Products:** Under normal conditions of storage and use, hazardous decomposition products should not be formed. If involved in a fire, generated gases may contain lead compounds, carbon monoxide and nitrogen oxides.

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## Section 11: Toxicological Information

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**Acute Toxicity (DL 50, CL 50):** Lead Tetroxide (500mg/kg body weight, No information).  
Silicon (3160 mg/kg, No information).  
Nitrocellulose ( $\geq 5000$  mg/kg, no information).

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

**Serious Eye Damage/Eye Irritation:** None under normal handling conditions. Eye contact with product contents may cause irritation.

**Respiratory or skin sensitization:** No, under normal handling conditions, combustion of material may produce toxic vapors.

**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 soil and waterways.

**Persistence and Degradability:** Possible persistence.

**Bioaccumulative Potential:** Possible bioaccumulation.

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

**Other adverse effects:** No information is available.

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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	0325	0325	0325
Proper UN Shipping Name	Igniters	Igniters	Igniters
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

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### Section 15: Regulatory Information

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#### 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.

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### Section 16: Other Information

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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**

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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.

OSHA – Occupational Safety and Health Administration.

ACGIH – American Conference of governmental Industrial Hygienists.

PEL – Permissible Exposure Limits.

TLV – Threshold Limit Value

### **Disclaimer of Liability**

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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.