

SAFETY DATA SHEET

MECHA DE SEGURIDAD (SAFETY FUSE)

Section 1: Product Identification

Product Trade Name:	WHITE SAFETY FUSE, USA GREEN SAFETY FUSE, ZW GREEN SAFETY FUSE, AB SAFETY FUSE, BLACK SAFETY FUSE.
Generic Name by SUCAMEC:	SAFETY FUSE
Recommended Use and Restrictions:	<p>The SAFETY FUSE is a blasting accessory and a component of the traditional initiation system. It is characterized for being flexible and has a central core of gunpowder, which transmits the fire to the fulminant, at a uniform speed; it is covered by several layers of different materials that guarantee the continuity of combustion and compaction.</p> <p>Do not store with incompatible products or near sources of ignition, avoid friction, shock, fire as there is a risk of explosion which may cause serious injury. Its handling temperature range is from -5°C to 35°C.</p>

Provider Information

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Section 2: Hazards Identification
Substance or Mixture GHS Classification

Safety fuse (slow fuse)
UN Number 0105
Class or Division 1.4S

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. 2	H315 Causes 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	Short-term hazard to the aquatic environment. Acute 3	H402 Harmful to aquatic life.

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.
P240	Grounding and equipotential bonding of the vessel and the receiving equipment.
P250	Avoid abrasion, shock and friction.
P261	Do not breathe gases produced by combustion.
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 and eye protection.

In the event of interference

P301 + P317	IF SWALLOWED: Seek help immediately.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth, DO NOT induce vomiting.
P332 + P317	If skin irritation occurs: Get medical attention.
P337 + P317	If eye irritation persists, Get medical advice.
P342 + P316	If experiencing respiratory symptoms: Get immediate medical attention.
P370 + P380 + P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

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

None.

Section 3: Composition / Information of components

Chemical Identity	Common Name	CAS Number	Concentration
Potassium nitrate	Not Applicable	7757-79-1	≤ 70 %
Carbon	Not Applicable	1333-86-4	≤ 30 %
Sulfur	Not Applicable	7704-34-9	≤ 30 %

Section 4: First Aid Measures

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: If powder comes into contact with skin, 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 powder comes into contact with eyes, 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: Abdominal pain, nausea, vomiting, motor weakness, anemia.

Most acute symptoms / effects: Abdominal pain, nausea and vomiting.

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

Immediate indications and special treatment: If exposed, seek medical attention and advice.

Section 5: Fire-fighting measures

Suitable extinguishing media: Use plenty of water, evacuate area immediately, prevent access, do not breathe fumes from fire.

Specific hazards of the chemical: Under certain conditions burning material causes toxic gases containing CO, H₂S, NO_x and SO₂

Special protective equipment and special precautions for firefighting equipment: Evacuate area in all directions 800 m or more. When product is in the vicinity of fire, spray with water to prevent combustion. When there is a declared fire on the product do not attempt to extinguish it, let the Safety Fuse be completely consumed. Clear the area and evacuate personnel to a safe place.

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

Personal Precautions: Verify fire and explosion risks, take regular safety precautions. Only qualified personnel should perform disposal of material, keep away from heat, sparks, open flames, hot surfaces.

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

Emergency Procedures:

- Restrict access to the 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 on material on the ground.

Environmental precautions: Environmental exposure is unlikely to occur, but in case of spillage, entry into sewers and public waters should be avoided.

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. 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.

Section 7: Handling and Storage

Precautions for Safe Handling

Operational and Technical Measures to avoid exposure: This product should be handled by qualified and authorized personnel in the use of the explosive. Handle with extreme care. The handling temperature of the SAFETY FUSE is from -5°C to 35°C.

Other precautions: Under no circumstances should you attempt to disassemble, cut or remove the product content.

Storage Conditions

Conditions for Safe Storage: It will be stored only with compatible products, according to local and state regulations. It must 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 the regulations in force and must have electrical grounding.

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

Section 8: Exposure control / personal protection

Control parameters

Not applicable.

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 should 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: Wear suitable clothing according to current regulations, such as cotton uniform, in order to avoid static charge buildup.

Respiratory Protection: Not required during handling.

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: It is a cord consisting of a black powder core surrounded by several layers of textile yarns, paper and asphalt mixture, finally covered with a plastic film.

Color: Not applicable.

Odor: Odorless.

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: Not applicable.

Flash Point: Not applicable.

Autoignition Temperature: Greater than 100°C.

Decomposition Temperature: Not applicable.

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.

Section 10: Stability and Reactivity

Reactivity: Explosive

Chemical Stability: Product is stable at normal recommended environmental conditions of storage and handling. Risk of fire by energy, impact, fire or other sources of ignition.

Possibility of Hazardous Reactions: Probability of fire and projections if exposed to fire, shock or friction, Combustion of material may produce toxic fumes.

Conditions to Avoid: Do not expose to high temperatures, fire, impact, friction, electric current and electrostatic discharges.

Incompatible Materials: Avoid contamination with corrosive, volatile, combustible substances, acids and bases.

Hazardous Decomposition Products: In the event of being involved in a fire, the gases generated contain CO, H₂S, NO_x and SO₂.

Section 11: Toxicological Information

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

Corrosion / Irritation: None under normal handling conditions.

Serious Eye Damage/Eye Irritation: Contact with contents may cause irritation.

Respiratory or skin sensitization: May cause respiratory distress if gases emitted after combustion are inhaled.

Germ Cell Mutagenicity: No information is available.

Carcinogenicity: Not applicable.

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 Harmful to aquatic life.

Persistence and Degradability: Not applicable.

Bioaccumulative Potential: Not applicable.

Soil Mobility: No information is available.

Other adverse effects: No information is available.




Section 13: Information regarding the disposal of products

Recommended and approved methods for safe disposal: All waste must be handled according to national 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 national 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	0105	0105	0105
Proper UN Shipping Name	Safety fuse (slow fuse)	Safety fuse (slow fuse)	Safety fuse (slow fuse)
Transport classification	1.4S	1.4S	1.4S

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.

OSHA – Occupational Safety and Health Administration.

ACGIH – American Conference of Governmental Industrial Hygienists.

PEL - Permissible Exposure Limit.

TLV - Threshold Limit Value.

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.