

SAFETY DATA SHEET

PRIMER

Section 1: Product Identification

Product Trade Name:	MINI PRIMER 150, MINI PRIMER 200, PRIMER 300, MAXI PRIMER 500, MAXI PRIMER 1000, MAXI PRIMER 3L
Generic Name by SUCAMEC:	SEISMIC EXPLOSIVE
Recommended Use and Restrictions:	PRIMER is a mixture of TNT and PETN, called Pentolite, packaged in plastic containers, used for geophysical exploration work. It should not be stored with incompatible products or near sources of ignition, avoid friction, impact and fire as there is a risk of explosion that can cause serious injuries, including fatal and catastrophic ones. Its handling temperature range is from 0°C to 60°C.

Provider Information

Name:	FAMESA EXPLOSIVOS S.A.C.
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Section 2: Hazards Identification
Substance or Mixture GHS Classification

Boosters without detonator

UN Number 0042

Class or Division 1.1D

Description		Hazard Identification
Physical Hazards	Explosives 1.1	H201 Explosive: mass explosion hazard
Health Hazards	Acute Ingestion Toxicity, Cat. 3	H301 Toxic if swallowed.
	Acute Dermal Toxicity, Cat. 3	H311 Toxic in case of skin contact
	Acute Inhalation Toxicity, Cat. 3	H331 Toxic in case of inhalation
Environmental Risks	Specific Target Organ Systemic Toxicity – Repeated Exposures, Cat 2	H373 May cause damage to organs through prolonged or repeated exposure.
	Long-term aquatic hazard, Chronic Cat. 2	H411 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.
P234	Keep only in original packaging.
P240	Grounding and equipotential bonding of the vessel and the receiving equipment.
P250	Avoid abrasion, shock and friction.
P260	Do not breathe dust, fume or vapors.
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 and eye protection.

In the event of interference

P301 + P316	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.
P316	Get immediate medical attention.
P321	Specific treatment if immediate specific measures are required.
P330	Rinse mouth.
P361 + P364	Immediately remove all contaminated clothing and wash it before reuse.
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 according to local regulations.
P403 + P233	Store in a well-ventilated place. Keep the container hermetically sealed.

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
2,4,6- Trinitrotoluene	Trinitrotoluene	118-96-7	0-60%
Pentaerythritol Tetranitrate	Penthrite	78-11-5	0-60%

Section 4: First Aid Measures

Inhalation: Move exposed person to a place where he/she can breathe uncontaminated air. Get medical attention.

Skin Contact: Wash immediately with soap and water. If irritation, redness or burning sensation exists and persists, seek medical attention.

Eye Contact: Wash immediately with plenty of water for at least 15 minutes holding eyelids up. If irritation occurs, repeat rinsing and seek medical attention.

Ingestion: Do not induce vomiting. Rinse mouth and give water to drink. Never give liquids to an unconscious person. Seek medical attention immediately.

Most important symptoms / effects: No information is available.

Most acute symptoms / effects: Irritating to eyes.

Delayed symptoms / effects: Causes organ damage from prolonged exposure. It may cause respiratory distress and asthma-like symptoms.

Immediate indications and special treatment: If exposed, seek medical attention and advice, emergency response should be treated appropriately, by intravenous administration of methylene blue.

Section 5: Fire-fighting measures

Suitable extinguishing media: Do not fight fire. 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 fire-fighting 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.

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: Exposure to the environment is unlikely, but in case of spillage, avoid entry into sewers and public waters, and wet the product with water, collect using a tray and spark-proof shovel. Do not use open flame near the spill site.

Methods and materials for isolation and cleaning up: First make sure that there are no sources of ignition, then carefully collect the pentolite that may have been scattered and place them in a suitable container using non-sparking tools, as long as they are not broken or knocked. 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.

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, bearing in mind that pentolite is sensitive under certain conditions of shock, friction, spark and fire. The handling temperature of PRIMER is 0°C to 60°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

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 (OSHA PEL-TWA)	Tolerable limit value (ACGIH TLV-TWA)
2.4.6- Trinitrotoluene	1.5 mg/m ³	0.1 mg/m ³

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: Solid.

Color: Not applicable.

Odor: Odorless.

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: Not applicable.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Decomposition Temperature: Not applicable.

pH: Not applicable.

Kinematic Viscosity: Not applicable.

Solubility: Insoluble in water.

Partition coefficient n-octanol/water (logarithmic value): Not applicable.

Vapor Pressure: Not applicable.

Relative density: 1.6 g/cm³.

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 explosion due to energy, shock, fire or other sources of ignition. Capable of detonation, explosive decomposition or explosive reaction, but requires a strong source of initiation or must be heated in confinement.

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.

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

Hazardous Decomposition Products: Toxic gases, carbon oxides (CO, CO₂), nitrogen oxide NO_x.

Section 11: Toxicological Information

Acute Toxicity (DL 50, CL 50): Pentaerythrite tetranitrate (1660 mg/kg, No information).
2,4,6-Trinitrotoluene (795 mg/kg, No information).

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 explosion 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: Toxic to aquatic life with long lasting effects.

Persistence and Degradability: It does not degrade.

Bioaccumulative Potential: For 2,4,6 -Trinitrotoluene the Log Pow is 1,6 (at 20°C).

Soil Mobility: No information is available.

Other adverse effects: Avoid release to the environment.



Section 13: Information regarding the disposal of products

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.

Section 14: Transport Information

Mode of transport applied	Road	Sea	Air
National and international regulations	SUCAMEC / Law 28256	IMO / IMDG	IATA / DGR
UN Number	0042	0042	0042

Proper UN Shipping Name	Boosters without detonator	Boosters without detonator	Forbidden
Transport classification	1.1D	1.1D	Forbidden
Label			Forbidden
Packaging group	II	II	Forbidden
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.

Log Pow - Logarithm of the coefficient of distribution.

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.