

**SAFETY DATA SHEET**

# BOOSTER HDP

**Section 1: Product Identification**

Product Trade Name:	BOOSTER HDP - 1/5 (90 g); BOOSTER HDP - 1/3 (150 g); BOOSTER HDP - 1/2 (225 g); BOOSTER HDP - 3/4 (340 g); BOOSTER HDP - 3/4 E (340 g); BOOSTER HDP - 1 E (450 g); BOOSTER HDP - 1 1/2 E (675 g); BOOSTER HDP - 2 E (900 g); BOOSTER HDP - 3 E (1350 g); MINI BOOSTER 10FA; MINI BOOSTER 18g; MINI BOOSTER 20g.
Generic Name by SUCAMEC:	BOOSTER OR MULTIPLIER
Recommended Use and Restrictions:	BOOSTER is a pentolite-based explosive used to initiate insensitive explosives or blasting agents such as Slurries, Ampho and Nitrocarbonitrates, where a common primer or the explosive power of a Detonating Cord does not activate them.  Its handling temperature range is from 0°C to 60°C.

**Provider Information**

Name:	FAMESA EXPLOSIVOS S.A.C.
Address:	Km 28 Autopista Ancón - Puente Piedra
City / Country:	Lima / Peru
Emergency telephone:	(+51 1) 613-9800
Email address:	famesa@famesa.com.pe
Emergency Telephone Number:	(+51 1) 613-9800 Extension 100
Office hours:	M-F from 08:00 to 17:00 hours

**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; danger of mass explosion.
Health Hazards	Acute Ingestion Toxicity, Cat.3	H301 Toxic in case of ingestion
	Acute Dermal Toxicity, Cat.3	H311 Toxic in case of skin contact
	Acute Inhalation Toxicity, Cat.3	H331 Toxic in case of inhalation
	Specific Target Organ Systemic Toxicity after Single Exposure, Cat.1	H370 Causes damage to organs.
	Specific Target Organ Systemic Toxicity after Single Exposure, Cat.2	H373 May cause damage to organs.
Environmental Risks	Long-term (chronic) aquatic hazard, 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.
P250	Do not subject to shock and/or friction.
P260	Do not breathe gases produced by combustion.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.

**In the event of interference**

P301 + P316	IF SWALLOWED: Seek immediate emergency medical help.
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.
P321	Specific treatment (see section 4 on this document).
P330	Rinse mouth.
P370 + P380	IN CASE OF FIRE: Evacuate area.
P372	Risk of explosion.
P373	DO NOT fight fire when fire reaches explosives.
P391	Collect spillage.

**For storage**

P401	Store according to local regulations.
P403	Store in a well-ventilated place.
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
Pentaerythritol tetranitrate (PETN)	Penthrite	78-11-5	35% - 55%
Trinitrotoluene (TNT)	Trinitrotoluene	118-96-7	45% - 65%

**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:** Irritating to eyes. High risk of mass explosion. Accidental detonation of this explosive may cause severe bodily injury and other traumatic damage, including death.

**Most acute symptoms / effects:** No information is available.

**Delayed symptoms / effects:** High risk of mass explosion. Accidental detonation of this explosive may cause severe bodily injury and other traumatic damage, including death.

**Immediate indications and special treatment:** PETN is a vessel dilator. Symptomatic treatment. Treat as nitrate exposure. May cause methemoglobin.

---

## 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:** Heat under confined and/or special conditions may cause violent reaction or explosion. May detonate when subjected to fire or under severe impact. Risk of mass explosion in case of 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.

---

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

**Personal Precautions:** Take any ignition source (flame, heat, spark, etc.) away from the place. Do not smoke and ventilate the area. Use appropriate safety elements.

**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.

---

## 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 care, bearing in mind that it may become sensitive under certain conditions of shock, friction, spark and fire.

**Other precautions:** Under no circumstances should you attempt to disassemble, cut or remove the product content. Before having your meal, get good personal hygiene.

---

## Storage Conditions

---

**Conditions for Safe Storage:** It will be stored only with compatible products. The ammunition dump designed for storage shall comply with all the requirements established by current regulation. The warehouse must be a dry, fresh, clean, and ventilated area with electrical connection to the earth. Must be stored in powder magazines at temperatures between 0 °C and 30 °C.

**Incompatible Substances and Mixtures:** Do not store together with Combustible material, oxidizing agents, reducing agents, acids, Alkalis, acids and bases, or metallic elements.

---

## Section 8: Exposure control / personal protection

---

### Control parameters

---

No value is recorded for this specific material; however, exposure limits and tolerable limit value are described, according to international standards for:

Product name: TRINITROTOLUENE.

Permissible exposure limit (OHSA): 1,5 mg/m<sup>3</sup>TWA 8 h.

Tolerable limit value (ACGIH): 0,1 mg/m<sup>3</sup> TWA 8 h.

### Appropriate engineering controls

---

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.

### 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 combustion of BOOSTER HDP 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 explosive substance. Solid explosive mixture packed inside a cardboard or plastic cylinder.

**Color:** Yellowish brown.

**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:** No information is available.

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

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

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

**pH:** No information is available.

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

**Solubility:** Insoluble in water, soluble in acetone.

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

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

**Relative density:** 1.60 ± 0.1

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

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

---

## 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 may occur due to shock, friction, fire or other ignition sources. Explosion creates the projection of shrapnel.

**Conditions to Avoid:** Heat. Keep away from open flames, hot surfaces and sources of ignition. Static discharge (electrostatic discharge). Do not subject to grinding / shock / friction. Avoid contact with other chemicals. Avoid contact with flammable substances.

**Incompatible Materials:** Combustible material, oxidizing agents, reducing agents, acids and bases.

**Hazardous Decomposition Products:** Nitrous Gases (NO<sub>x</sub>) and Monoxides (CO<sub>x</sub>).

When heated to decomposition (unconfined), the gases generated may contain carbon monoxide, carbon dioxide and nitrogen oxides. When molten there is no hazardous polymerization.

---

## Section 11: Toxicological Information

---

**Acute Toxicity TNT (DL 50, CL 50):** 795 mg/kg, no information is available.

**Acute Toxicity PETN (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:** May cause mild eye irritation.

**Respiratory or Skin Sensitization:** Prolonged contact with the contents of this product may cause dermatitis.

**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 contact with soils and water sources.

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

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

**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. 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	Forbidden
Proper UN Shipping Name	Boosters without detonator	Boosters without detonator	Not Applicable
Transport classification	1.1D	1.1D	Not Applicable
Label			Not Applicable
Packaging group	II	II	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.

Date of Issue: 03/25/2022

Revision: Annual

### 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 - Chemical Abstracts Service.

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.