



SAFETY DATA SHEET

SDS-004

Revision: 02

Date: May 2024

1. PRODUCT AND COMPANY IDENTIFICATION

1.1- Product identification: Bi-directional Boosters.

1.2- Application: Oil, Gas and Water Well

1.3- Manufacturer:

ETASA (ARGENTINA) S.A

Ruta 25 Km. 13 Villa Rosa 1631

PO Box 374 Pilar 1629

Buenos Aires – Argentina

Telephone: +54 230 4494167

Telfax: +54 230 4494165

Cel. 24hs. Darío Lattanzio +54 9 11 4440 6526

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2. HAZARD IDENTIFICATION

Substance classification:



H204 - Fire or projection hazard.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P234 - Keep only in original packaging.

P240 - Ground and bond container and receiving equipment.

P250 - Do not subject to grinding/shock/friction.

P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P370+P372+P380+P373 - In case of fire: Explosion risk. 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.

P401 - Store in accordance with local regulations on explosives.

P503 - Refer to manufacturer/supplier for information on disposal/recovery/recycling.

This Bi-directional Boosters does not present mass detonation risks, United Nations (0367 1.4S)

3. COMPOSITION, INFORMATION ON INGREDIENTS

Material

- HMX (Cyclotrimethylenetrinitramine)
- Aluminium Shield

4. FIRST AID MEASURES

4.1 Description of First-aid Measures:

First-Aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-Aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.

First-Aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 5 minutes. Obtain medical attention if irritation develops or persists.

First-Aid Measures After Eye Contact: Rinse cautiously with water for at least 5 minutes. Remove

contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

First-Aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Effects: Energetic effects (blast effects, heat, noise, and shrapnel) from functioning of the product can cause serious physical injuries.

Symptoms/Effects After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Effects After Skin Contact: Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/Effects After Eye Contact: May cause slight irritation to eyes.

Symptoms/Effects After Ingestion: Ingestion may cause adverse effects. May cause haemoglobinemia.

Chronic Symptoms: None expected under normal conditions of use. If exposed to product contents, May cause haemoglobinemia.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects. If medical advice is needed, have product container or label at hand.

5. FIRE FIGHTINGS MEASURES

5.1. Extinguishing Media

NOT FIGHT FIRES INVOLVING EXPLOSIVES. Water may be applied through fixed extinguishing system (sprinklers) as long as people need not be present for the system to operate.

Unsuitable Extinguishing Media: DO NOT fight fires involving explosives.

5.2. Special Hazards Arising from the Substance or Mixture

Fire Hazard: Explosive, could cause fire and secondary explosions.

Explosion Hazard: Explosives, Division 1.4 - Explosives (with no significant blast hazard).

Reactivity: Metallic oxides, carbon and nitrogen oxides.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. This product is an explosive with a fire or projection hazard. DO NOT FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS.

Firefighting Instructions: DO NOT ATTEMPT TO FIGHT FIRE. Immediately evacuate all personnel from the area to a safe distance. Guard against re-entry. Thermal decomposition can lead to release of irritating gases and vapours.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not allow run-off from firefighting to enter drains or water courses

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures:

- Evacuate danger area. Keep away from heat, sparks, open flames, hot surfaces.
- No smoking. Do not get in eyes, on skin, or on clothing. Do not breathe dust.
- Use appropriate personal protective equipment (PPE).
- Evacuate unnecessary personnel. Evacuate danger area.
- Dust suppressant.

6.2. Environmental Precautions:

- Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

6.3. Methods and Materials for Containment and Cleaning Up:

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams. Absorb and contain with inert material. Place contents in suitable container for disposal.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Mechanically recover the product. Transfer spilled material to a suitable container for disposal. Use only non-sparking tools. Be careful to avoid shock, friction, and contact with grit. Collect product for recovery or disposal. For release to land, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Collect contaminated soil and water, and absorbent for proper disposal. Notify applicable government authority if release is reportable or could adversely affect the environment. Contact competent authorities after a spill.

7. HANDLING AND STORAGE

| | | |
|---------------------------------|-------------------------------|---|
| Hazard Class | | 1.4S |
| Handling and storage conditions | | Store and prepare only in authorized buildings, follow the local authority regulations of explosives and explosives articles. |
| Handling | Instruction for safe handling | <ul style="list-style-type: none"> - Keep away from heat sources and flames. - Keep away from any ignition sources. - Avoid mechanical influences (Ex. impact, crushing) - Do not smoke |
| | Fire and explosion protection | <ul style="list-style-type: none"> - Do not smoke - Keep away from ignition sources and fire - Avoid any mechanical impact and crushing influences |
| | Final disposition | - Disposal must be in accordance with local authorities. |

8. EXPOSURE CONTROLS – PERSONAL PROTECTION

- Use only with adequate ventilation.
- Use safety glasses or goggles, gloves, protection masks against dust and mist.
- Use cotton clothes and conductive soled shoes.

9. PHYSICAL PROPERTIES

Aluminium Shield containing HMX

10. STABILITY AND REACTIVITY

- Detonation may be caused by friction, impact, heat, electric contact.
- Fire could produce irritant and toxic gases.
- Detonation produces hazardous fragments

11. / 12. TOXICOLOGICAL/ ECOLOGICAL INFORMATION




There are not ecological or toxicological damages expected.

13. DISPOSAL CONSIDERATION

Final disposition must be under federal, state and local laws, regulations and ordinances

14. TRANSPORT INFORMATION

| | |
|---|-------------|
| 14.1 UN Number: ICAO/ IATA-DGR/ IMDG | 0367 |
| 14.2 Official Transport designation of the United | |

| | |
|---|---|
| Nations: ICAO/ IATA-DGR/ IMDG | Fuzes, Detonating |
| 14.3 Relative class of transport: ICAO/ IATA-DGR/ IMDG | Class 1.4S Label 1.4S  |
| 14.4 Packing Group: | No Apply |
| 14.5 Environmental Risks: | No |
| 14.6 Special user precautions: FEM | F-B, S-X |
| 14.7 Transport in bulk por annex II of MARPOL 73/78 and the IBC Code: | No Apply |
| 14.8 Transport/ Additional Data: Handling label Limited quantity: Excepted Quantity: | N/A Forbidden E0 |
| Label and Marking Unit of Ground transportation: |   |
| Emergency phones | Carlos Aman 54 9 2284 15 547828 Eliana Lorena Cabo 54 9 11 1531981440 |

15. REGULATORY INFORMATION

- Ley de Armas y explosivos 20.429 Decreto 302/83.
- Ley de Transito 24.449 Decreto 779/95.
- For international handling United Nation “Recommendation on the transport of dangerous goods” are applicable. (Orange Manual).

16. OTHER INFORMATION

- The 1.4S packaging or classified material 1.4S
 - This products are designed and packed in such a way that allows energeral burn with small detonation and proximity fragments projections.
 - The effects are usually limited to packaging proximity. If fire reached the charge storage area that contains 1.4S packaging or classified material 1.4S, consider a 50 feet isolation area. Keep a reasonable distance when fighting fire.
 - Explosives must be handled following approved safety procedures under the direction of competent, qualified persons in accordance with local regulations.
- This information contained is based on our actually knowledge. This information is given for the purposes on safety handling of our products and adapted safety precautions, but makes no warranty as to such.