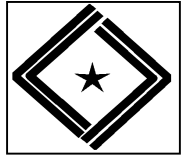


# Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communications Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

# U.S. Department of Labor

Occupational Safety and Health Administration  
(Non-Mandatory Form)  
Form Approved  
OMB No. 1218-0072



## IDENTITY (As used on Label and List)

ELECTRIC DETONATORS (Mantelec 5m)

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

### Section I

Manufacturer's Name EXPLO INDUSTRIAS QUIMICAS E EXPLOSIVOS S.A.	Emergency Telephone Number 011 55 125 521811
AV. INDUSTRIA QUIMICA MANTIQUEIRA, 317	Telephone Number for Information (817) 468-4576
LORENA S.P. BRAZIL	Date Prepared Jan-05
	Signature of Preparer (optional)

### Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	(optional)
PENTARYTHRITE TETRANITRATE	500mg	N/A	1.5mg/m3	N/A
LEAD AZIDE STYPHNATE	300mg	N/A	1.5mg/m3	N/A

Common name: 2m (#6 Electric Detonator), 3m (#8 Electric Detonator) and 5m (#8 Electric Detonator)

### Section III - Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H2) = 1)	1.7
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	0%

Solubility in Water

NEGLIGIBLE

Appearance and Odor

ODORLESS WHITE SOLIDS

### Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits N/A	LEL N/A	UEL N/A
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Extinguishing Media

ELECTRIC DETONATORS WILL EXPLODE WHEN SET ON FIRE. DO NOT ATTEMPT TO

Special Fire Fighting Procedures

EXTINGUISH THE FIRE. EVACUATE PERSONNEL TO A SAFE DISTANCE.

Unusual Fire and Explosion Hazards

DETONATORS WILL EXPLODE WITH VIOLENT RELEASE OF GASES AND DEBRIS

WHEN SET ON FIRE OR SUBMITTED TO VIOLENT IMPACT PR EXPOSED TO ELECTRIC CURRENT.

(Reproduce locally)

OSHA 174, Sept. 1985

### Section V - Reactivity Data

Stability	Unstable	X	Conditions to Avoid SEVERE IMPACT, FIRE, EXTREME HEAT, ELECTROSTATIC DISCHARGE.
	Stable		

Incompatibility (Materials to Avoid)

NO KNOW CHEMICAL INCOMPATIBILITIES

Hazardous Decomposition or Byproducts

PRODUCE NITROGEN OXIDES WHEN DETONATED

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

### Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? N/A	Skin? N/A	Ingestion? N/A
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Health Hazards (Acute and Chronic)

N/A

Carcinogenicity:	NTP? N/A	IARC Monographs? N/A	OSHA Regulated? N/A
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Signs and Symptoms of Exposure

N/A

Medical Conditions

Generally Aggravated by Exposure

N/A

Emergency and First Aid Procedures

IN CASE OF INJURIES SUSTAINED BY DETONATION, SEEK EMERGENCY MEDICAL CARE IMMEDIATELY

### Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

REVIEW FIRE AND EXPLOSION SAFETY PROCEDURES BEFORE

STARTING CLEAN-UP OPERATION. WEAR APPROPRIATE PERSONAL PROTECTION CLOTHING.

Waste Disposal Method

USE ONLY PROPERLY TRAINED PERSONNEL AND RECOMMENDED PROCEDURES. CONSULT

AN EXPLOSIVES MANUFACTURER OR CONSULTANT IN CASE AN EXPERT PERSONNEL IS NOT AVAILABLE.

Precautions to Be Taken in Handling and Storing

STORAGE OF DETONATORS MUST COMPLY WITH ATF REGULATIONS.

PACKAGING, MARKING AND LABELING OF BOXES MUST COMPLY WITH 49 CFR DEPT. OF TRANSPORTATION REGULATIONS.

Other Precautions

### Section VIII - Control Measures

Respiratory Protection (Specify Type)

N/A

Ventilation	Local Exhaust	Special
	N/A	N/A
	Mechanical (General)	Other
	N/A	N/A

Protective Gloves	N/A	Eye Protection	N/A
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Other Protective Clothing or Equipment

N/A

Work/Hygenic Practices

N/A