OTAMERICA

Jetty Information Booklet

Puerto Rosales Maritime Terminal

1. HISTORY OF REVISIONS

Rev.	Date	Reason for change	Author	Approval

2. KEY CONTACTS

2.1. Company's Telephones and Addresses

BUENOS AIRES: Martin Lezica 3075 – (B1642GJA) San Isidro – Buenos Aires Province – Telephone number: 011-5230-1100/Fax: 011-5230-1111

PUERTO ROSALES: Terminal Marítima Puerto Rosales – Isla Cantarelli – P.O. Box 26 (8109) Punta Alta – Telephone numbers: 02932-429200/Fax: 02932-429211

2.2. Emergencies

Notices shall be given by radio (VHF emergency channel 16) to the control room (extension: 429204) and/or the Shift Supervisor (extension: 429243).

2.3. Radio Communication

For all communication between the tanker and tugboats during mooring and departure maneuvers, as well as for communication between the tanker and the Terminal for loading/unloading operations, VHF channel 68 should be used whenever possible.

In the case of a simultaneous mooring/departure maneuver with an operation in progress at the other berth, it is feasible and advisable to use VHF channel 69 to avoid overloading or interrupting communications. It will be of the utmost importance that both the vessel and the facility are aligned in this regard to avoid loss of communication at critical moments.

2.4. Port Authority

Argentine Coast Guard Office (Prefectura Naval Argentina, PNA) (Tel. 291-5051609, or VHF Channel 12) and Puerto Rosales Port Authority (Tel. 291-4852280).

2.5. Pilots

Pilotage companies are: ESEM S.A. (Tel. 4570114) and DONMAR S.A. (Tel. 4570342).

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4. ACRONYMS AND DEFINITIONS

OTE: Oiltanking EBYTEM.

ESD: Emergency Shutdown System.

VHF: Very High Frequency.

PLANACON: National Contingency Plan *[PLANACON:* Spanish acronym*]*.

PNA: Argentina Cost Guard [Spanish acronym for: *Prefectura Naval Argentina*].

SDS: Safety Data Sheet.

PPO: Port Protection Officer.

OM: Maritime Ordinance [*OM:* Spanish acronym].

IG: Inert Gas.

H_2S: Hydrogen Sulfide.

ISGOTT: International Safety Guide for Oil Tankers and Terminals.

LEL: Lower Explosive Limit.

5. EMERGENCY PROCEDURES

5.1. General (alarms, contacts)

In case of fire, explosion, accident, or spill, the following sequence of warnings shall apply.

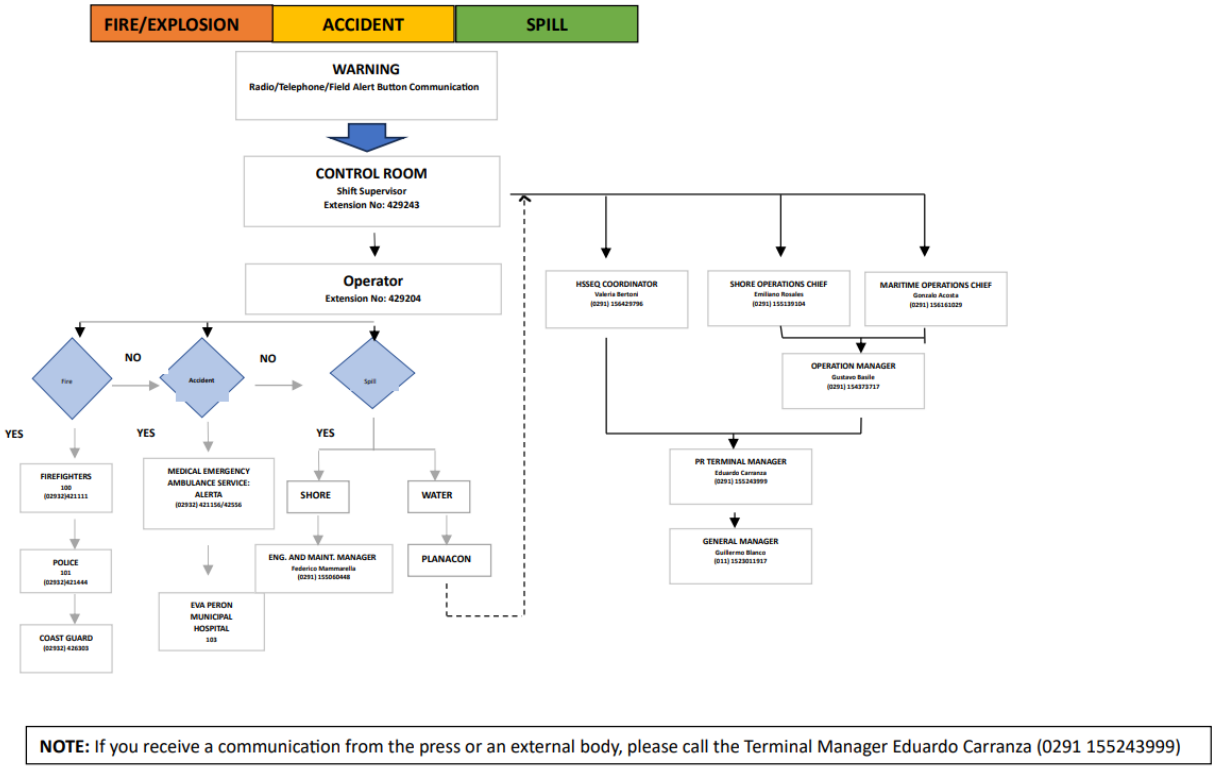

Illustration 1: Sequence of warnings

Alarms:

There are 3 alarms in the jetty area. They are as follows:

Fire Alarm:

Stop all activities immediately and safely. In case of unloading operation, close system valves. In case of loading operation, close system valves after Terminal confirmation of pumps shutdown.

Control ignition sources.

Follow the escape route up to the assembly point in an upwind direction. The escape route will always be from the operations platform towards the viaduct, services platform or continuing to the embankment. The assembly point, as can be seen in

the plan below, is on the services platform. The escape route is for personnel operating on platforms. If deemed necessary, the abandonment by the crew under the Captain's order will be carried out in an orderly manner through the aforementioned escape route.

Spill alarm:

The emergency shutdown system will activate an alarm, and, in turn, the authority (PNA) will be notified, and the emergency shutdown system (ESD) will be activated. During this event, both the loading and unloading of the vessel will be stopped, leaving the installation in a safe position.

Control ignition sources.

Follow the instructions of the plant personnel for this event.

Man Overboard Alarm:

The procedure for the event of a man overboard is described in a later item.

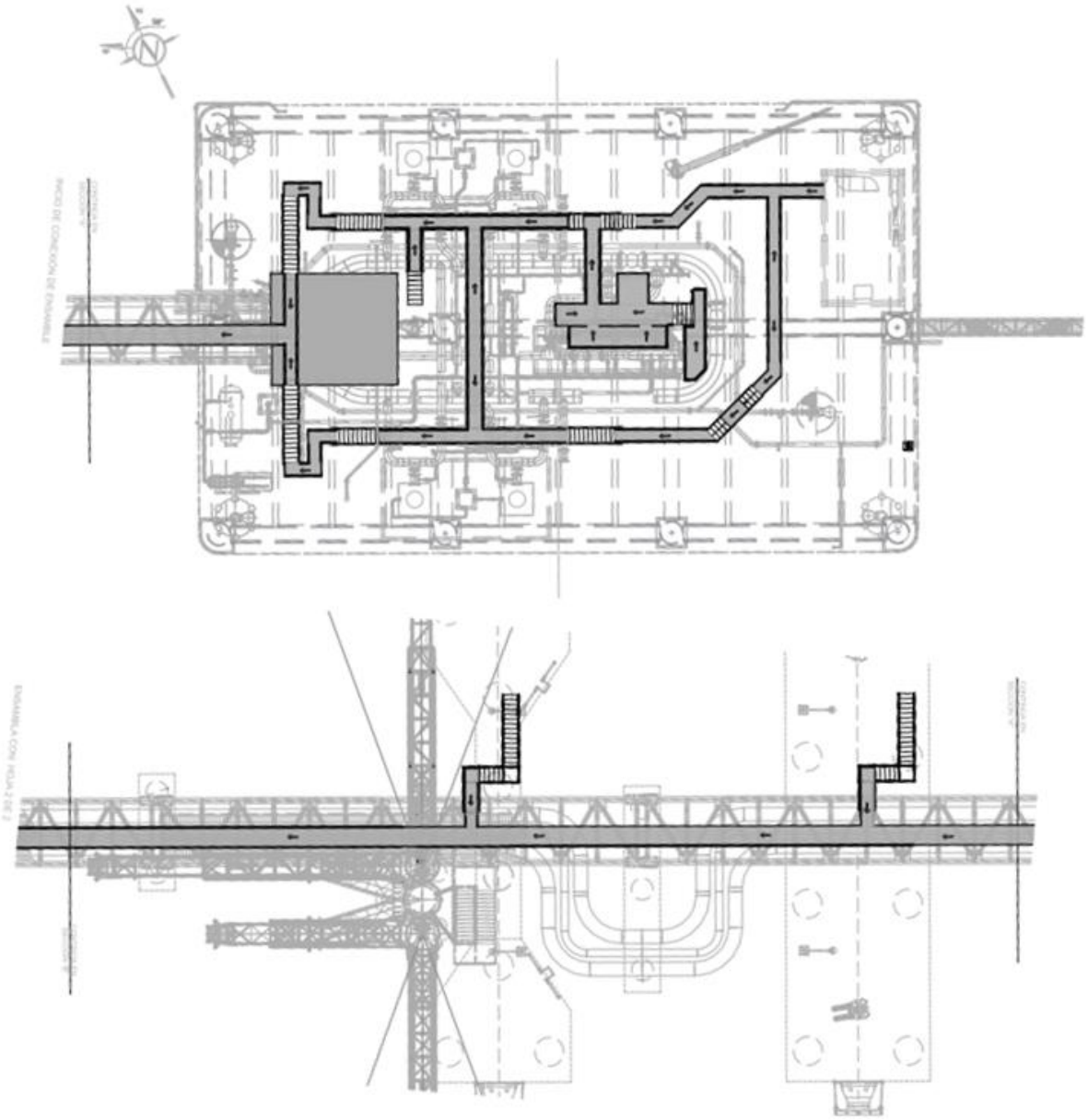

Illustration 2: Escape Route

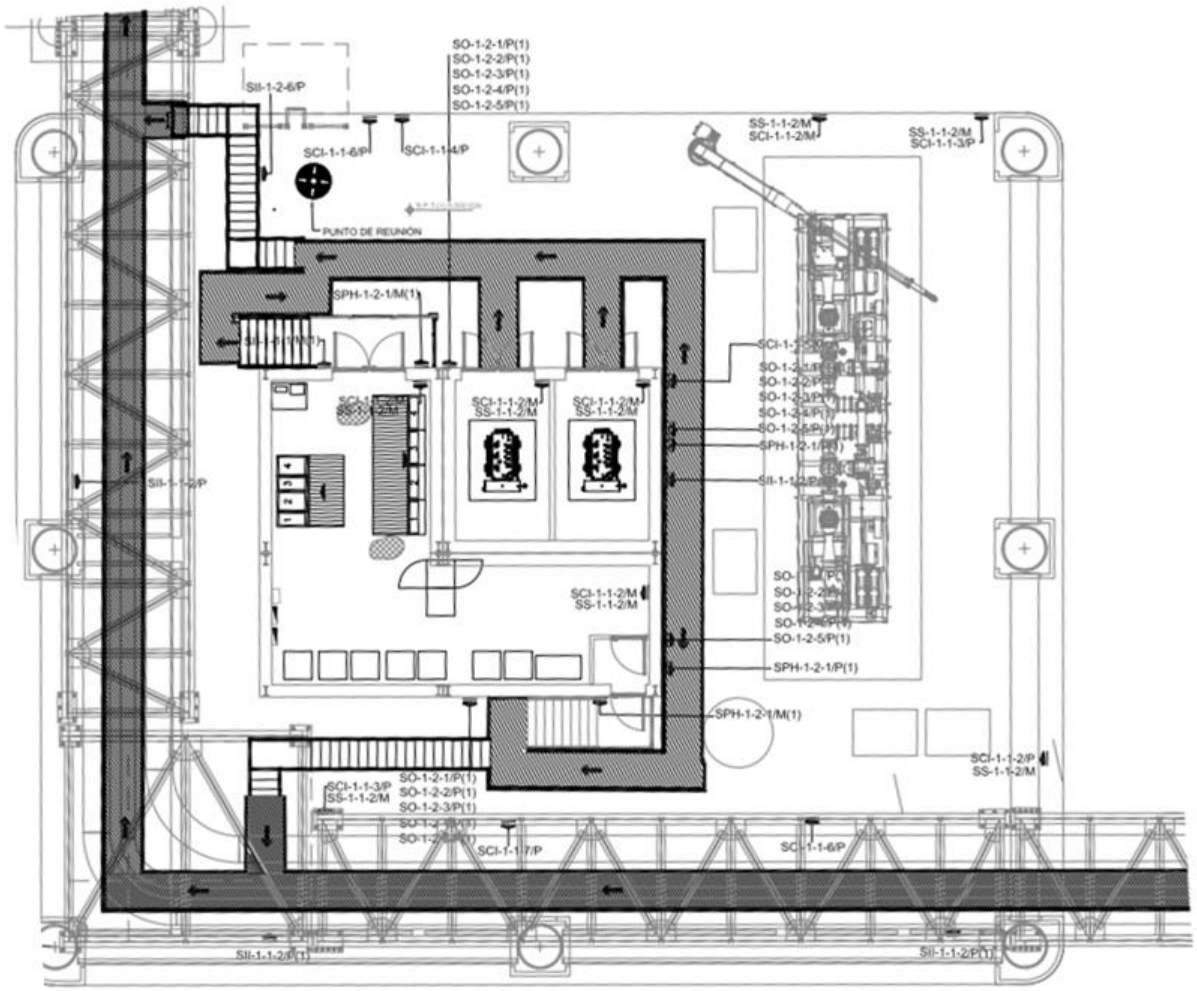

Illustration 3: Escape Route (continuation)

Stop all activities, shut-down all ignition sources	Rescue casualties	Push nearest Emergency button	Inform control room (radio)	Initiate first intervention if possible	Follow marked escape routes to assembly point
					

Always follow the instructions of Oiltanking personnel

Illustration 4: Signaling References

5.2. Oil Spill (Pollution Response Team)

In the event of an oil spill, the Loading Master and the Jetty Operator must be informed using VHF Channel 68, and they will implement the National Contingency Plan (PLANACON).

Communications between the Company and Coast Guard (PNA) will be made through the corresponding fixed VHF services, using channels 12-14-16.

When a polluting incident occurs, such as a spill, the Captain shall immediately inform the Loading Master on board the moored vessel operating at the dock and the Shift Supervisor. They shall immediately communicate or link with the official response system, Bahía Blanca Cost Guard (PNA), immediately, using the following link routes:

Radio communication	VHF Channel 12
	VHF Channel 14
	VHF Channel 16
Telephone numbers	0291 4573124
	0291 4571337
	0291 4571720
Fax	0291 4573355

5.3. Fire and Explosions

In the event of fire or explosion, the Loading Master and the Jetty Operator must be informed using VHF Channel 68, and they will implement the National Contingency Plan (PLANACON). In the event of fire and explosion on the vessel, the Captain shall inform the Coast Guard (PNA) through emergency channels 12 (L2N) or 16. In all cases, operations shall be stopped, and loading arms shall be disconnected. Likewise, in the event of fire on the vessel, and if requested by the Captain, the jetty firefighting system can be used. The Loading Master will coordinate the vessel departure once the emergency is over.

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5.4. Collision/Damage to the Jetty

In the event of a collision or damage to the jetty, the Jetty Operator shall immediately stop operations and notify the Shift Supervisor. The Loading Master shall inform the corresponding authorities (PNA) through VHF channel 12 (L2N). The OTE Technical Department shall evaluate the damage and determine the possibility of continuing the operation or ordering repairs to the jetty.

5.5. Medical Emergency

No medical assistance infrastructure is available in the Terminal for the vessel's crew.

The Captain or his representative shall order medical assistance through their maritime agency.

The Terminal will help to disembark a serious accident victim on board as soon as possible using the mooring boats, and the Captain or the corresponding Maritime Agency shall request the transfer from the port to the assistance center that will assist the person.

5.6. Safety Non-compliance

Upon detection of safety non-compliance, the Loading Master, and the Shift Supervisor in charge of the operation shall immediately stop the operation until it is safe again. All safety non-compliance events must be reported in accordance with the Terminal's Safety Management System. Whenever the safety non-compliance event concerns the vessel or the crew, the Loading Master shall send a letter of protest to the Captain of the vessel.

5.7. Man Overboard

In the event a person falls into the water, the nearest lifebuoy ring shall be thrown to the person and the "Man Overboard" alarm on the dock shall be activated. The person taking action shall immediately notify the Shift Supervisor through channel 68, starting the man overboard procedure available at the Terminal.

5.8. Emergency Shutdown (ESD)

Emergency Shutdown (ESD) is an emergency shutdown system that is activated to safely and quickly stop operation in the event of a critical situation. The ESD automatically closes valves, shuts down pumps, and stops product flow to prevent further damage and ensure the protection of personnel, vessel, and infrastructure.

5.9. Notice of Occurrence Policy

Safety incidents of any kind must be reported in the Terminal's safety management system. Also, the Captain of the vessel must report the event through a letter of protest in the format defined by the Shipowner and send a copy of this letter of protest to the Loading Master upon completion of the operation.

6. HEALTH, SAFETY AND PROTECTION POLICY

6.1. Life-saving Rules

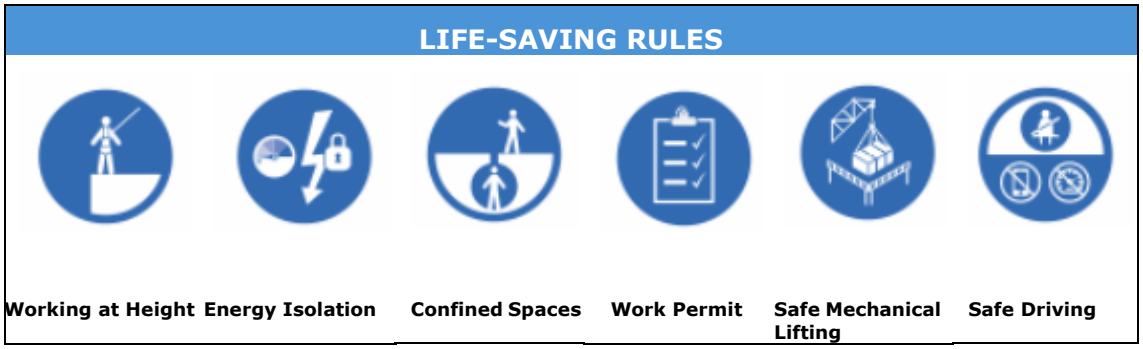


Illustration 5: Life-saving rules

6.2. Personal Protection Equipment (EPP) Requirements

Minimum personal protection equipment must be worn at all times. Minimum EPP consists of safety hard hat with chin strap, safety shoes (anti-static safety shoes with product resistant soles), safety glasses and protective clothing (anti-static, long-sleeved clothing).

Additional EPP requirements (e.g., hearing protection) must also be met when indicated by signage or required by a work permit.

For personnel working outside the jetty control room, the use of life jackets is mandatory.

6.3. Terminal Access/Crew Disembarkation/Visitors On Board

Visitors are not allowed to board the vessel unless expressly authorized by the Master of the vessel and only via the auxiliary boat service.

Embarkation and disembarkation of personnel may be carried out by sea through the boat service managed by the coordinating Shipping Agencies. Embarkation and disembarkation by land will only be considered in emergency situations.

6.4. Vessel/Terminal Interface (Security Statement)

This jetty information booklet is intended to familiarize vessel crews with our facilities in order to maintain a safe working environment. This document contains general information on Health, Safety, Security, and Environment, basic rules of behavior, instructions for emergencies, relevant terminal regulations, and information for safe and efficient operations while a vessel is berthed. Therefore, regardless of the

required permits, anyone entering the Terminal for the first time must familiarize themselves with this booklet.

Regulatory Requirements:

Puerto Rosales Terminal complies with the rules and regulations of the Republic of Argentina, Oiltanking Ebytem S.A. (OTE) specifications, and international norms or standards. Listed below are the organizations and standards that apply; in all cases, the latest edition should be considered:

National Legislation

Provincial Legislation

National Standards (CIRSOC, NAG, IRAM, etc.).

Oiltanking EBYTEM S.A. Internal Procedures

Other international norms (NFPA, API, ASTM, ASME, etc.).

In the event of an inconsistency, conflict, or discrepancy between any of the Standards, Specifications, and Regulatory Requirements, the stricter shall prevail.

In all cases, the Port Protection Officer (PPO) shall intervene.

6.5. Drugs/Alcohol

Possession or consumption of alcohol, drugs, or other intoxicants or being under the effects of alcohol, drugs or other intoxicants is forbidden on the dock operation platform.

6.6. Smoking

Smoking is forbidden.

Carrying ignition sources (e.g., lighters, matches) is forbidden at all times.

6.7. Portable Electronic Equipment and Open Lights

The use of equipment that produces sparks or explosions (e.g., cell phones, radios, radios, cameras, calculators, battery-operated hearing devices) is not allowed.

6.8. Repairs while Vessel is Berthed

There are shipyards to repair vessels in Bahía Blanca and Punta Alta. They must be contacted through the Maritime Agencies. Only cold repairs that do not affect the

provisions of OM 1/93 and are duly authorized by the Maritime Authority shall be allowed on vessels.

6.9. Supplies and Provisions

The Terminal does not provide supplies and provisions services.

6.10. Material Safety Data Sheet (SDS)

The Terminal will provide the relevant SDS to the vessel before loading operation begins. For unloading operations, it is the vessel's responsibility to provide the SDS to the Terminal. The vessel must also inform the Terminal and inspectors if the previous cargo contained any toxic substances. At a minimum, the following information must be available on the SDS:

A complete description of the physical and chemical properties, including reactivity, is necessary for the safe containment and transfer of the cargo.

Actions to be taken in case of spills or leaks.

Countermeasures to be taken in the event of accidental personal contact.

Fire extinguishing procedures and means.

(See Appendix).

6.11. Hydrogen Sulfide (H_2S) – Precautions during Loading and Unloading

The maximum permissible concentration of H_2S inside cargo tanks is 10 ppm. Levels above 10 ppm must be reported and a continuous monitoring routine of the concentration in the vessel manifold area must be established

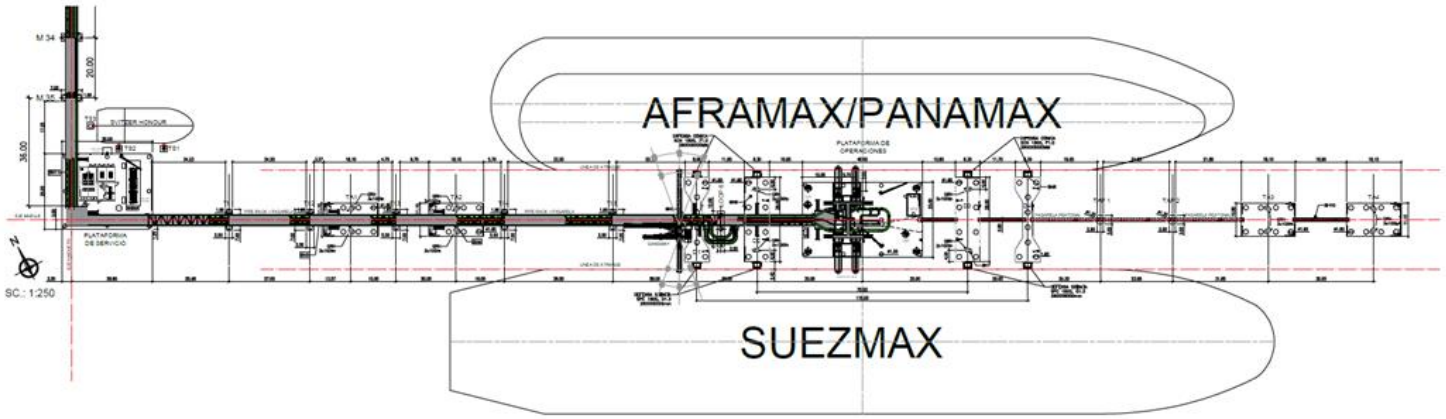
The Terminal shall not be responsible for any delays arising from this operation and/or any other additional measures taken due to the nature of this cargo.

7. GENERAL INFORMATION

7.1. Terminal Location

The terminal is located in the area of Puerto Rosales, 6 km from the city of Punta Alta, Province of Buenos Aires, Argentina, and it is reached through the access road to Puerto Rosales. The tanks and other infrastructure are located on Cantarelli Island. The offshore facilities are located about 1800 meters offshore on the north margin of the access channel to the port of Bahía Blanca.

7.2. Terminal Layout



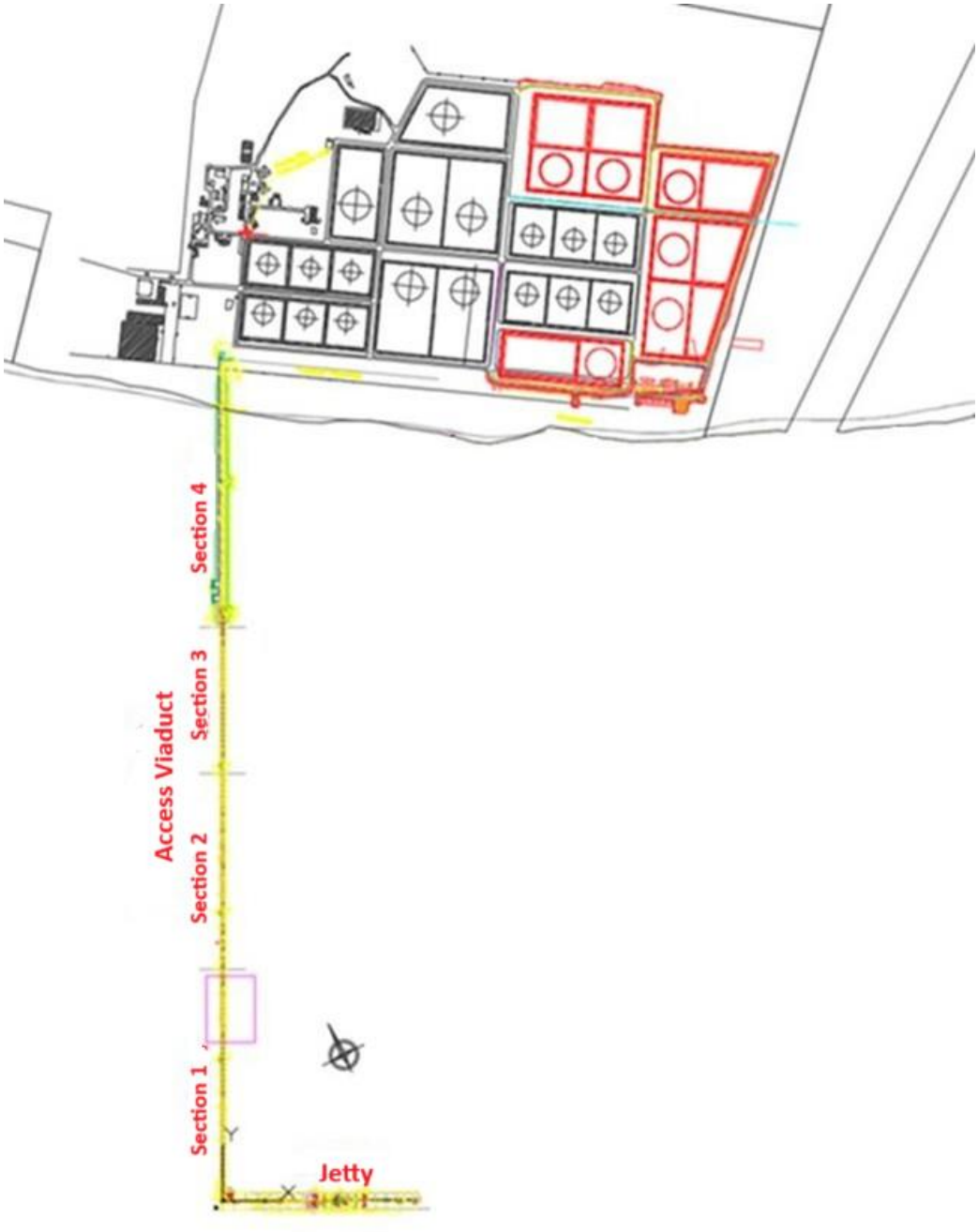


Illustration 7: Terminal layout

7.3. Hours of Operation

The mooring shifts of the vessels arriving at the Terminal are granted following the guidelines for the assignment of operation windows established in the Terminal's Internal Regulations. In this sense, the Terminal Scheduler will ensure that the operating windows are assigned to guarantee the best logistical performance and compliance with the final monthly schedule agreed upon by all customers/users of the Terminal.

7.4. Local Time Zone

Time Zone ART (Argentina Time) GMT-3.

7.5. Language

Spanish/English.

7.6. Conditions of Acceptance/Dispatch/Inspection of the Vessel

Tanker equipment, operation and maintenance shall be aligned with the most current versions of the OCIMF and ISGOTT 2020 recommendations and comply with the dimensional requirements.

Mooring Point No.		Depths Alongside [m]	Depths Approaches [m]	BEAM [m]	LOA [m]	Displacement [MT]	MLA Envelope at CD(0) [m]
Site 1	Max	20	20	48	282	185,000	12,05
	Min			32	228	89,290	12,05
Site 2	Max	19	18	44	254	139,391	12,05
	Min			32	228	89,290	12,05

OTE reserves the right to reject the nomination of any vessel it deems unfit to operate at its Puerto Rosales terminal and to unmoor any vessel operating if it has operational problems that threaten the normal development of the operating program and/or presents structural, equipment or personnel conditions that endanger people, the environment, property and the company's reputation.

Maximum vessel age:

Vessels exceeding 25 years of age, calculated from the date of delivery from the shipyard, shall not be accepted. Clients nominating spot contracted vessels between 20 and 25 years of age must submit the following documentation:

- CAP Certificates (Condition Assessment Program) with qualification 1 or 2 obtained at 15 and 20 years of age. Vessels with CAP 3 or 4 ratings will not be accepted.
- Every 6 (six) months, they must send to the Terminal a copy of the last 3 inspections carried out in the SIRE system (OCIMF) and a copy of the operational efficiency reports carried out by the charterer.

Verification of UN or other organizations sanctions:

Customers and/or Companies nominating vessels to operate at our Terminal shall ensure that:

- The vessel is not covered by any of the sanction programs of the United Nations, the European Community, OFAC (US) or other relevant organizations.
- The vessel’s flag does not belong to a country affected by such sanctions.
- The origin of the product to unload is not from a sanctioned country.
- The product does not originate forma a port or is destined to a port belonging to a sanctioned country.

Oiltanking EBYTEM S.A., as a member of the Marquard & Bahls AG Group, is strongly committed to the sustainable development of its businesses, and expects, through them, to generate added value for its employees, shareholders, and society, while taking care of the environment. To achieve this strategic goal, the Group urges companies and all their employees, among other things, to work within a framework of responsible and honest behavior, preventing and reporting acts of corruption, money laundering, development of terrorist activities with an approach that goes beyond mere compliance with local law. In this sense, careful control is carried out

to identify vessels and/or cargoes whose owners could be persons or companies included in the sanction's programs of the United Nations and other relevant organizations. OTE reserves the right to reject the reception and/or dispatch of vessels and/or cargoes if, as a result of this more exhaustive control process, the latter turns out to be covered by the aforementioned sanctions. In order to avoid inconveniences and delays when operating, we request your cooperation in checking vessels and cargoes prior to their nomination.

7.7. Environmental Monitoring Procedures (weather, tides)

The environmental system allows measuring, displaying, and recording environmental conditions.

The system consists of the following typical components:

- Environmental Sensors
- Integrated central system installed in the control room.
- Display of environmental information on the integrated central system. Display of environmental information on portable units.

Oceanographic Monitoring:

- Current and Tide – Side View Sensor

The side view current sensor is designed to operate in horizontal position, allowing remote speed measurement from a simple and secure mounting on a structure. The sensor measures two-dimensional currents in an adjustable horizontal plane, with a range of up to 120 m from its location, and it is integrated into the environmental monitoring system to provide real-time and historical oceanographic data.

- Laser Wave and Tide Sensor

The use of laser technology in this application is a practical alternative to the traditional tide gauges and wave height meters, as the sensor is not exposed to fouling and does not require high levels of maintenance, as is the case with submerged sensors.

Weather Monitoring:

- Weather Station

The compact weather transmitter is a small, lightweight device that provides various weather parameters in a single unit.

Available outputs:

- Wind speed and direction
- Temperature
- Humidity
- Air pressure
- Precipitation

The most common wind, tide and current conditions are listed below:

Winds:

The predominant wind direction in the area is NW, with an average speed of 31 km/h. The highest wind frequency in this sector occurs in July and the highest speed occurs in December-January.

Tides and currents:

The Bahía Blanca estuary has a semi-diurnal tidal regime with an amplitude that can reach more than 4 m. Tabulated tide timetables and heights usually show due to the influence of the prevailing wind. In general, it can be said that winds from the WNW to the NNE sector produce lower heights and prolong the low tides, while winds from the E to the W sector (passing through the south) produce higher heights and prolong the high tides. During large storms, the difference in height, more or less than the tabulated tide, can be up to 1.5 m.

The highest current speed occurs between 3 and 4 hours after high tide or low tide, and speeds of up to 2.6 knots have been measured. The current courses in the Terminal area are approximately 295º for the rising and 115º for the falling tide.

8. JETTY INFORMATION

8.1. Products Handled

The types of crude oils handled by the Terminal are the following:

- Medanito
- Maria Inés
- Cañadón Seco
- Escalante
- Hidra

For further information, please refer to the safety data sheet of each product included in the Appendix.

8.2. Length Overall (LOA)

Defined in "Vessel Acceptance/Dispatch/Inspection Conditions."

8.3. Extreme Beam

Defined in "Vessel Acceptance/Dispatch/Inspection Conditions."

8.4. Extreme Displacement on Arrival

The approach speed for each vessel is:

Ship condition	Unidad	Ship 1	Ship 2	Ship 3
		Suezmax	Aframax	Panamax
Full load	m/s	0.132	0.156	0.191
Full load	Kns	0.256	0.303	0.371
Ballast	m/s	0.240	0.288	0.308
Ballast	kns	0.466	0.559	0.598

8.5. Draft Control

Defined in "Vessel Acceptance/Dispatch/Inspection Conditions."

8.6. Maximum Draft

Defined in "Vessel Acceptance/Dispatch/Inspection Conditions."

8.7. Loading Rates

Each loading arm located on the operating platform has an operating flow rate of 2500 m^3/h (5000 m^3/h per site).

8.8. Unloading Rates/Maximum Allowable Working Pressure (MAWP)

The maximum allowable working pressure of each arm is 15 kg/cm^2.

8.9. Size of Hose(s) and/or Arm(s)

The loading arms are 16" each.

8.10. Crane Requirements for the Vessel

The vessel must have a crane with a capacity of 15 Tn in case contingency operation is required if the loading arm has a failure.

8.11. Secure Working Load of Mooring Components

The Secure Working Load of mooring hooks is 100 tons.

Particular considerations regarding mooring line materials:

The mooring equipment of vessels operating at the terminal will be evaluated based on industry recommendations, using the guidelines described in the Mooring Equipment Guidelines, 4th Edition (MEG4) as reference.

Vessel	Location	Diameter mm	MBL Ton	Material Input Into Software	
SUEAZMAX	Bow/Stern/Spring Line	34	84	Steel Wire	SW
AFRAMAX	Bow/Stern Line	72	95	Polyester	PE
	Spring Line	34	95	Amsteel Blue HMPE	ab
PANAMAX	Bow/Stern/Spring Line	68	68	8-stand Polypropylene Hi-Man Rope	ph

Mooring Configuration:

Following the Standards and Codes of reference, due to the configuration of the site, it is reasonable to consider a symmetrical mooring configuration at stern and bow consisting of 3 (three) lines for the lengths, 3 (three) lines for the crossings and 2 (two) lines for the springs.

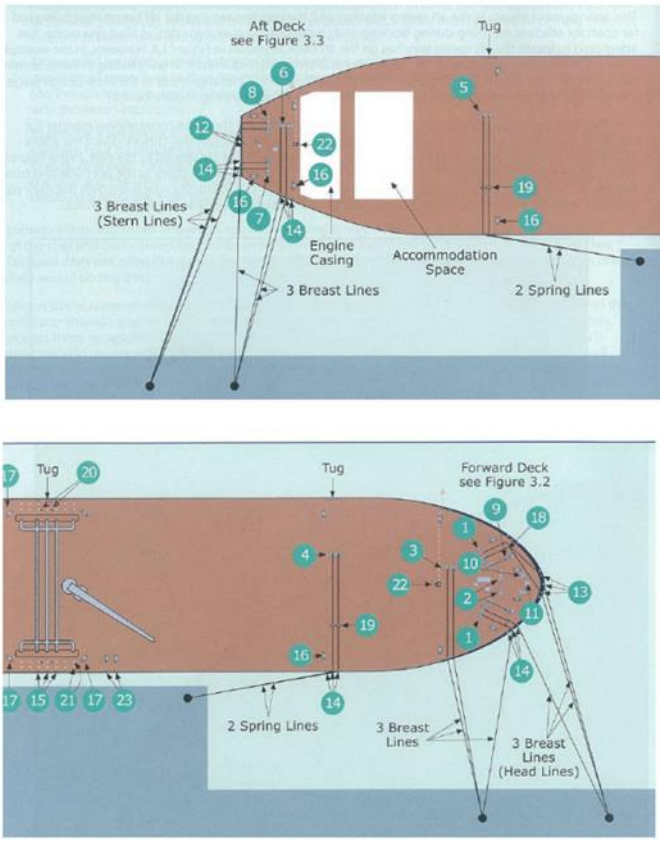


Illustration 8: Mooring Configuration

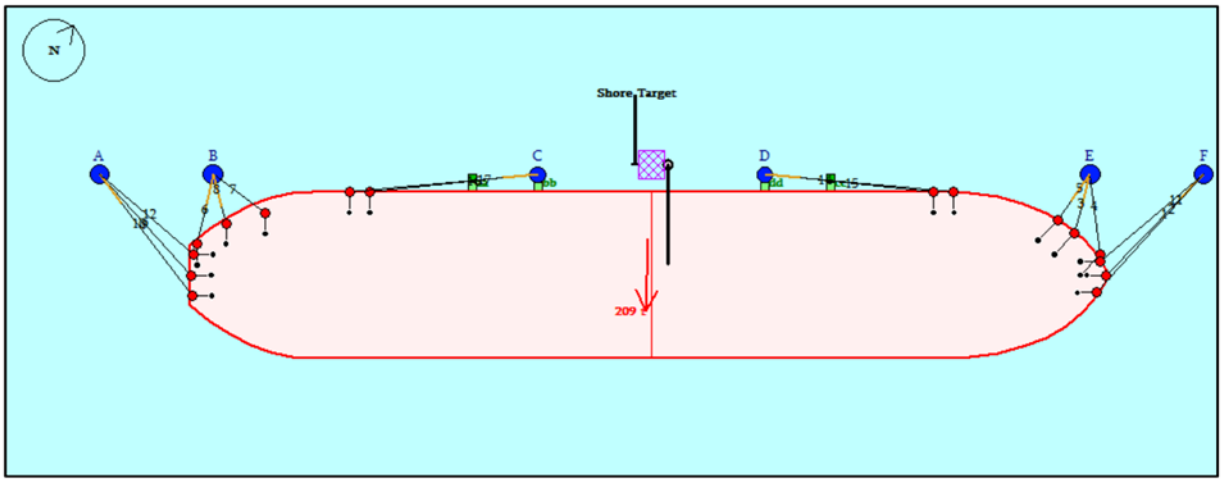


Illustration 9: Mooring arrangement for Suezmax vessel

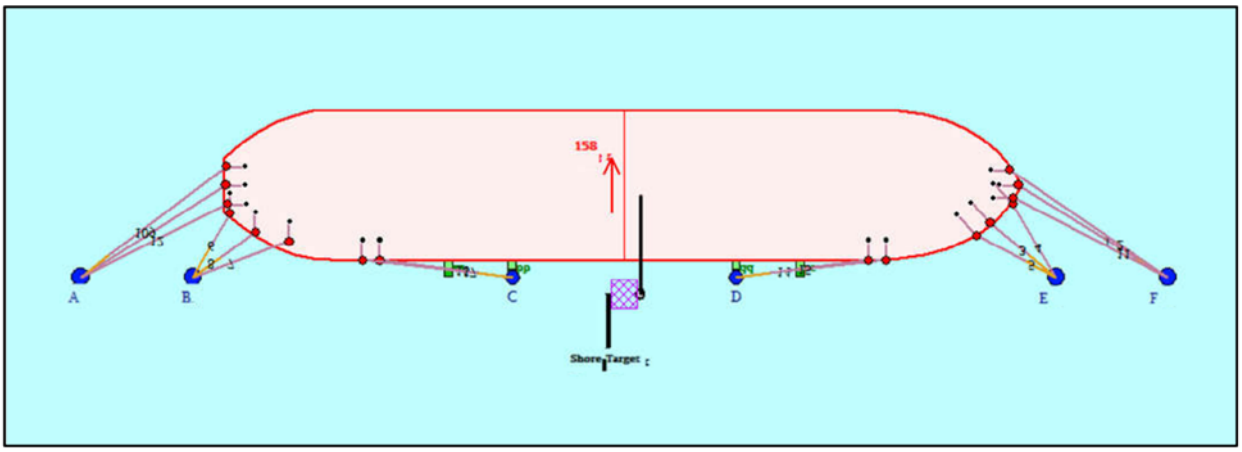


Illustration 10: Mooring arrangement for Aframax vessel

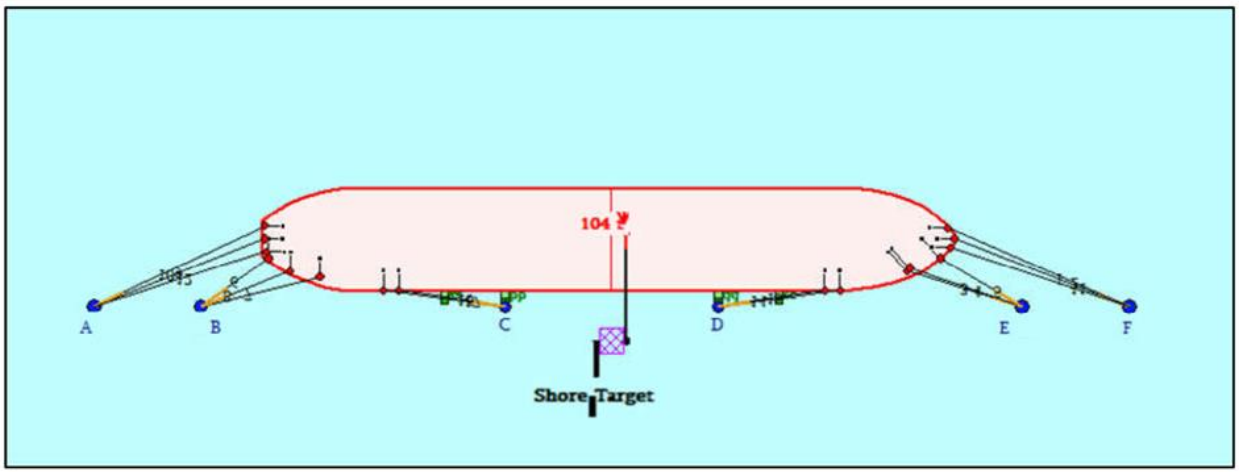


Illustration 11: Mooring arrangement for Panamax vessel

9. PRE-ARRIVAL COMMUNICATIONS

9.1. Terminal/Vessel Information Exchange and Communication prior to Arrival

The local maritime agencies contracted on behalf of the vessels that will proceed to operate shall inform the terminal's Maritime Operations personnel of the vessel's ETA seventy-two (72), forty-eight (48) and twenty-four (24) hours before it arrives at the Terminal.

Any variation of more than two hours in the arrival time shall be immediately reported to the Terminal. If the tanker's voyage from the last port is less than forty-eight (48) hours, the time of departure must be reported.

Likewise, within forty-eight (48) hours prior to the arrival of the vessel, they shall act as intermediaries for the Exchange of pre-arrival information between the vessels and the Terminal.

The Captain of the tanker or his representative shall issue the Notice of Arrival according to the terms and conditions of the shipping contract and confirm it via e-mail to the Terminal.

In accordance with the customs regulations in force, prior to the arrival of the vessel, the Maritime Agencies must send by e-mail to this Terminal a copy of all the customs documentation that enables and corresponds to the operation (Removed/Import/Export) of the vessel in question. The Maritime Agencies, acting as Customs Transport Agent, shall guarantee the presence of a Customs Inspector at the Terminal and on the vessel prior to the beginning and end of the operations. It should be noted that no vessel will be authorized to moor until the required documentation mentioned above has been submitted. The Terminal shall notify the Maritime Agency of the planned mooring schedule, the operation to be carried out, the quantity to be loaded/unloaded, and any other news related to the operation.

The Terminal shall not provide the Clients the services of Agency, embarkation and/or disembarkation of persons, provisions, spare parts, nor will it make presentations to the maritime, sanitary or customs authorities.

9.2. Information Exchange before the Arrival of the Vessel at the Terminal according to ISGOTT, Chapter 22

The Exchange of pre-arrival information shall follow the safety checklist of the ISGOTT (International Safety Guide for Oil Tankers and Terminals) in its latest edition.

10. OPERATIONAL INFORMATION

10.1. Gangway

The gangway is composed of a metallic structure with two telescopic ladders for crew access to the jetty. These ladders safely connect the fixed installations of the jetty with the vessel, facilitating the transit of personnel between both points during port operations.

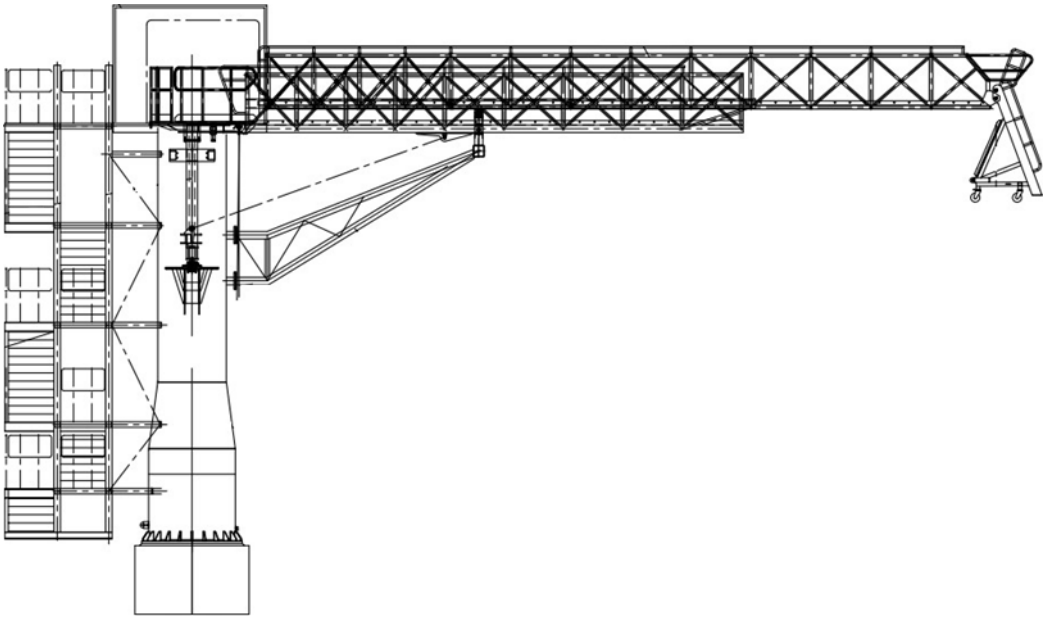


Illustration 12: Gangway plan

10.2. Pre-cargo Conference Policy

After mooring the vessel to the jetty, the Loading Master will embark and hold the pre-operational conference with the vessel's Captain. They must complete the documentation with the information requested in the document defined for this purpose. The Loading Master must leave a copy for the Captain and keep one in safekeeping as documentation of the operation.

OTAMERICA	**PRE-CARGO CONFERENCE RECORD**	**Oiltanking EBYTEM S.A.**

Ship´s name:	**Jetty:**

Loading/Discharging Program

	BOW —STERN Connection Port/Starboard								
Order of Loading/Discharging Grade					**Quantity to Load/Discharge**	**Agreed Rate**	**Max Pressure Ship Shore**	**Ship/Shore Stop**	**Tanks to Load**
1									
2									

Responsible Officers Controlling Cargo Operations

Name	**Rank**	**English Speaking**	**Duty Hours**

Remarks

Approx. Density at 15ºC:

Approx. Loading Temp.:

VHF Channel:

Minimum fwd. Draft:

Initial Loading Rate:

Initial Loading Channel:

Topping Off Rate:

Notice for stopping:

In case of emergency, call: VHF Channel:

IMPORTANT: It must be pointed out that the SPM´s lines are not equipped with retention valves.

Extreme precautions are to be taken on starting discharge.

Emergency shutdown procedure: For loading operations, the manifold valve shall be closed in not less than 3 (three) minutes.

Date and Time:

Signed .....
Master/Ch. Off.

Signed .....
Loading Master

10.3. Vessel/Terminal Safety Checklist and Declaration of Inspection (including Shift Handover Policy)

The safety checklist must be completed in accordance with ISGOTT manual latest edition. In the document, the Loading Master must complete the fields corresponding to him as representative of the Terminal, and the Captain must complete those corresponding to the vessel. Both must keep a signed copy of the document.

10.4. Procedures for Connecting, Disconnecting and Draining the Loading Arm or Hose.

The Operations Department has an operating procedure for connecting and disconnecting the loading arm. If necessary, request operating procedure for loading arm coupling maneuver.

10.5. Loading Arm Working Area

The loading arm works within a certain zone called working area.

This area is divided into different zones: connection zone, drift zone, operating zone, warning zone and ERC (Emergency Release Coupler) emergency zone.

0+1. Connecting Zone + Drifting Zone: The outer limit of this zone is spherical.

This is the design working area of the loading arm.

2. Operating Zone: This is the actual zone in which the loading arm can move freely during loading or unloading.

3. Warning Zone: An acoustic signal sounds as soon as the loading arm moves out of the working area to the front, to the sides or upwards.

Stop loading or unloading and move the vessel back into the working area.

4. ERC Emergency Zone: An emergency release signal sounds as soon as the loading arm enters this zone forward and sideways. The Emergency Release Coupler (ERC) will be actuated. The outer limit of this zone indicates the maximum reach of the loading arm. Attempting to move the loading arm outside these lines will result in mechanical damage.

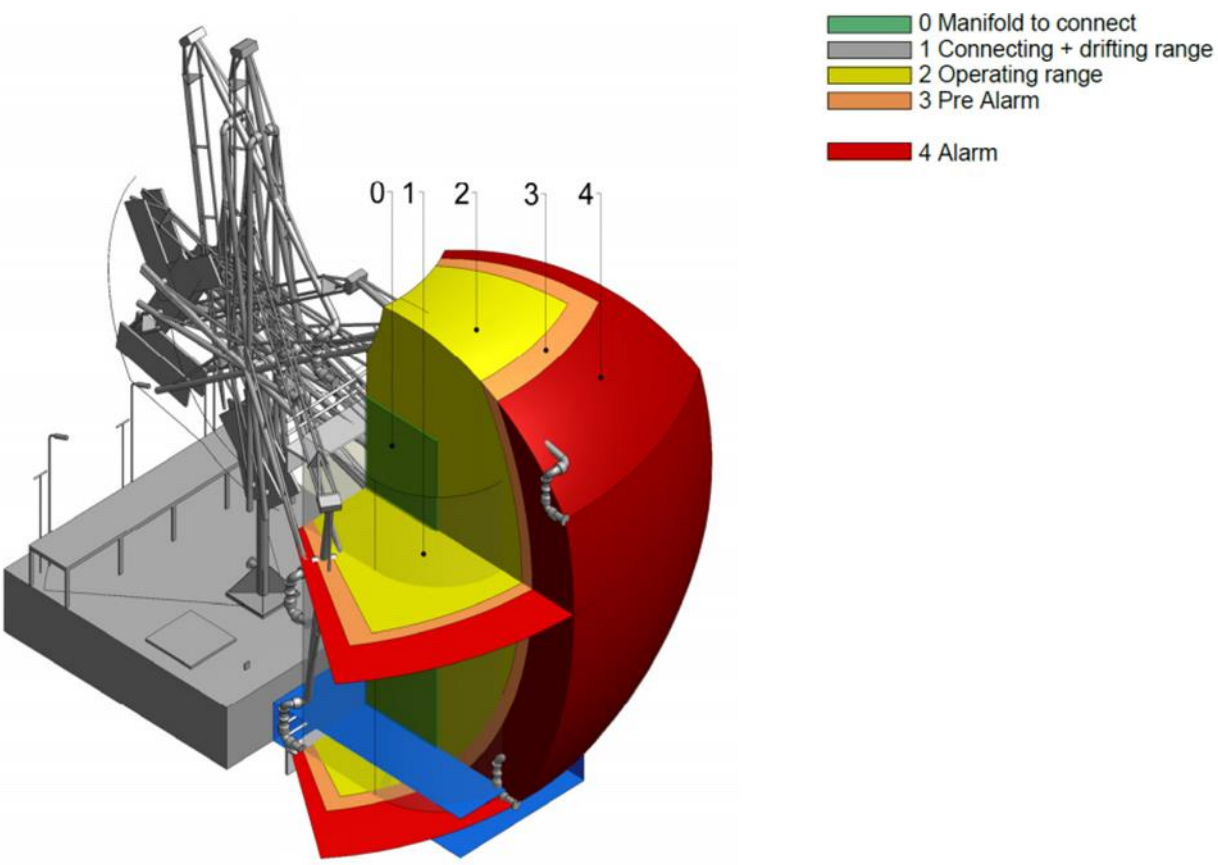


Illustration 13: Loading arm operating envelope

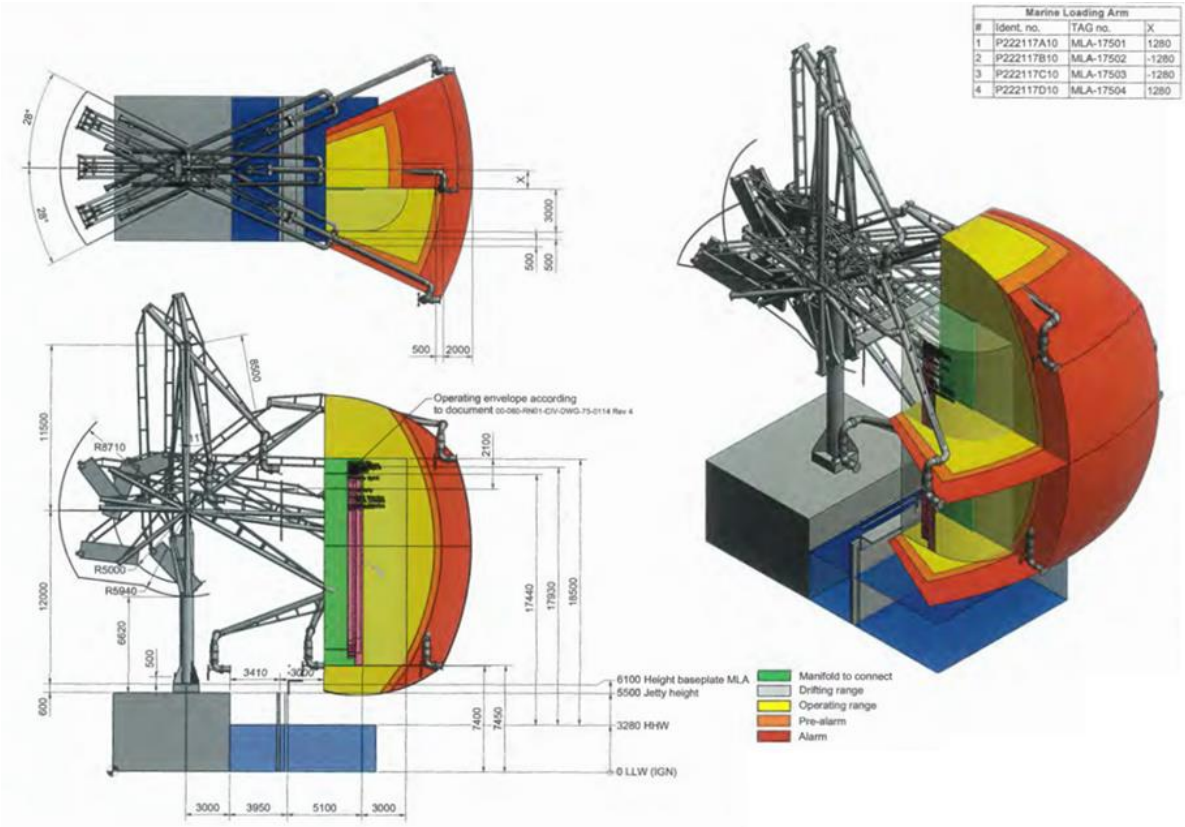


Illustration 14: Loading arm operating envelope (continuation)

10.6. Crude Oil Washing (COW)

The Terminal does not object to COW operations on the vessel as long as the Captain agrees and holds OTAMERICA harmless from any alteration in the quality of the unloaded product with respect to the quality of the product shipped at the port of origin.

10.7. Safe Operation Requirements (wind, lightning, tide, current, waves, ice)

The terminal has established the following weather limits for each stage of the operation.

Mooring Maneuver

The maneuver shall take place only when the hydro-meteorological conditions are below the specified threshold values for the mentioned factors.

Tipe of vessel	Wind speed (Knt)
Suezmax	20 knt.
Aframax	25 knt.
Panamax	25 knt.

Operational Wind Speed (Design base)

Additionally, and in line with the latest PIANC recommendations, the Operational Wind Speed Limit for crude oil loading and unloading operations will be determined, for which a restriction on vessel movement and a reserve for mooring line tensions will be added.

- Mooring line tension less than 33% MBL
- Load on hooks less than Safe Working Load (Hook Working Load Limit)
- Vessel maximum movement less than 1 m in any direction.
- Fender reaction less than Nominal Defence Capacity.
- Wind speed less than Terminal wind limit (40 knots).

Determination of current action on the moored vessel

As for the current, the maximum value recorded is 1.33 m/s, in the direction of the incoming and outgoing tide in the estuary, which corresponds to the longitudinal direction of the moored vessel. It is estimated to adopt Vcurrent=1.5m/seg = 2.9 knots.

Maritime parameters must be monitored regularly with the aid of a weather station and a reliable weather forecast for the period covering the mooring, transfer operation and unmooring.

Meteorological limits for maritime operations

- Operation of the loading arm shall be stopped in winds above 30 knots for Suezmax, Aframax and Panamax vessels.
- MLA shall be disconnected in winds above 35.
- The unmoored maneuver shall be started in coordination with the Terminal in winds above 40 knots. (Suezmax, Aframax and Panamax).

Note: The terminal reserves the right to require more restrictive conditions for mooring and/or preventive departure maneuvers in order to safeguard the lives of personnel and the integrity of both the vessel and the marine facilities. This shall not give rise to any claims by the shipping or loading companies.

With these established limits, the following mooring hooks are adopted:

Mooring towers (MT1, MT2, MT3 and MT4)

Triple hooks, 100 tons SWL each.

Central mooring dolphins (D2 and D3)

Double hooks, 100 tons SWL each.

10.8. Tank Cleaning, Purging and Degassing

No tank cleaning, degassing, or purging operations are allowed on board any vessel while it is moored at the jetty.

10.9. Inert Gas System Policy

The inert gas system of the vessel must be operative (according to the requirements of the class) and must be in use at all times. In the event that the vessel's inert gas system does not comply with the requirements and specifications in ISGOTT latest edition or does not function as required, loading operations must be stopped immediately and may not be resumed until the system is repaired or until written permission is granted by the shipowners and the Terminal representative.

All ships mooring at the Terminal must have an operational inert gas system with an oxygen content of 8% or less in all cargo tanks.

10.10. Load, Sampling and Measuring Surveyors

Cargo surveyors are required to accurately measure and maintain records of all cargo tanks, including unnominated tanks and other compartments, before and after the completion of the cargo transfer operation. The Captain shall allow surveyors to inspect all cargo tanks and other compartments.

The Captain shall allow surveyors to use their own calibrated measuring equipment, provided it has the appropriate fittings and connection to the steam lock of the cargo tank concerned. The final quantification of the cargo shall be based on the surveyor's measuring equipment.

In the event that the surveyor's equipment is not compatible with the vessel's steam connection, and subject to a positive comparison between the vessel's and the surveyor's measuring equipment, in addition to a valid certificate of shore-based inspection and calibration of the equipment, the vessel may use its own equipment for measurement and calculation.

10.11. Bunkering Policy

Bunkering activities are strictly prohibited on our premises.

10.12. Slop Removal

The Terminal does not have slop reception facilities.

10.13. Potable Water

Fresh water supply for the vessel is not available at the Terminal. If required, the Captain shall coordinate the supply of fresh water at the anchorage with the Maritime Agency.

11. APPENDIX

11.1. Wind Speed Limit for Permanence at the Jetty

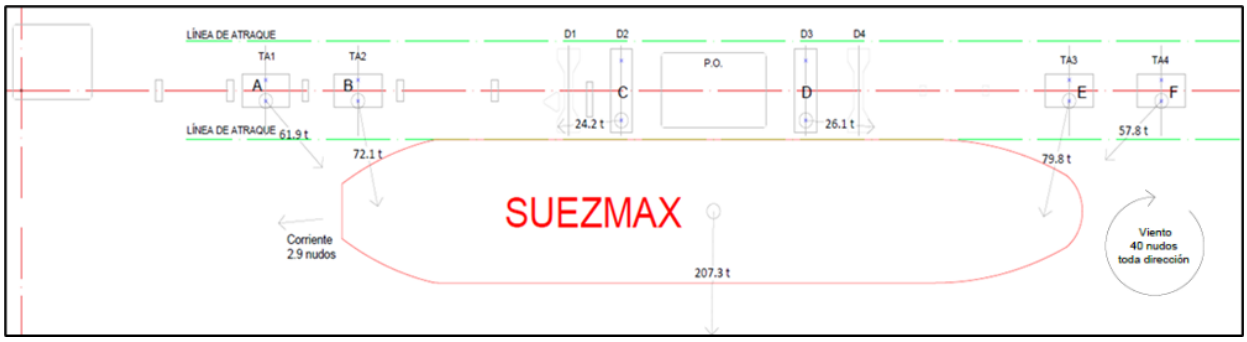


Illustration 15: Suezmax vessel

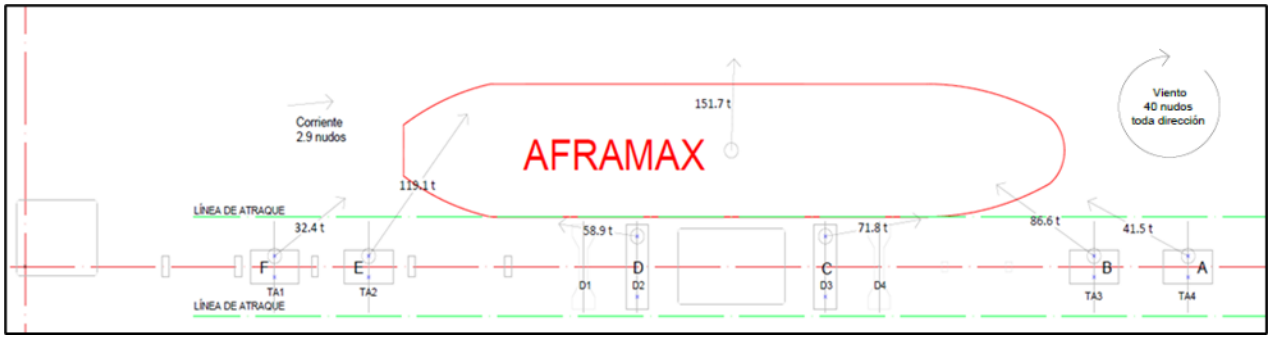


Illustration 16: Aframax vessel

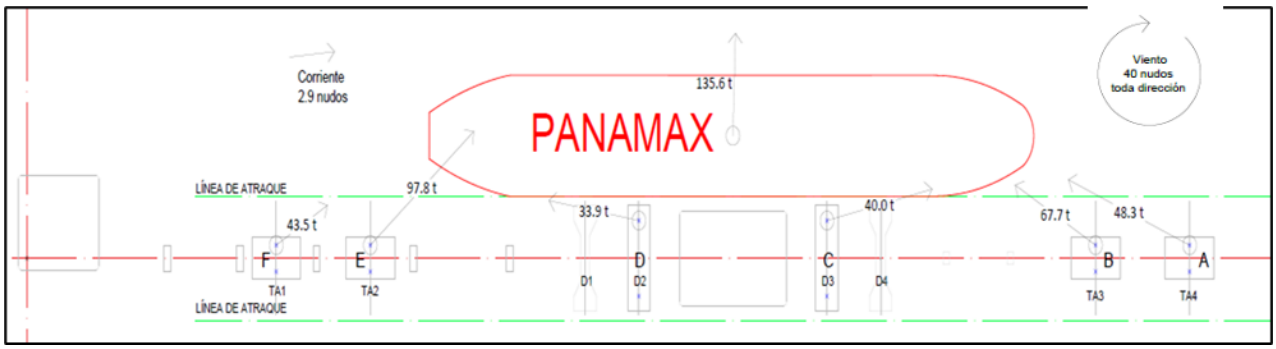


Illustration 17: Panamax vessel

11.2. Operational Wind Speed Limit

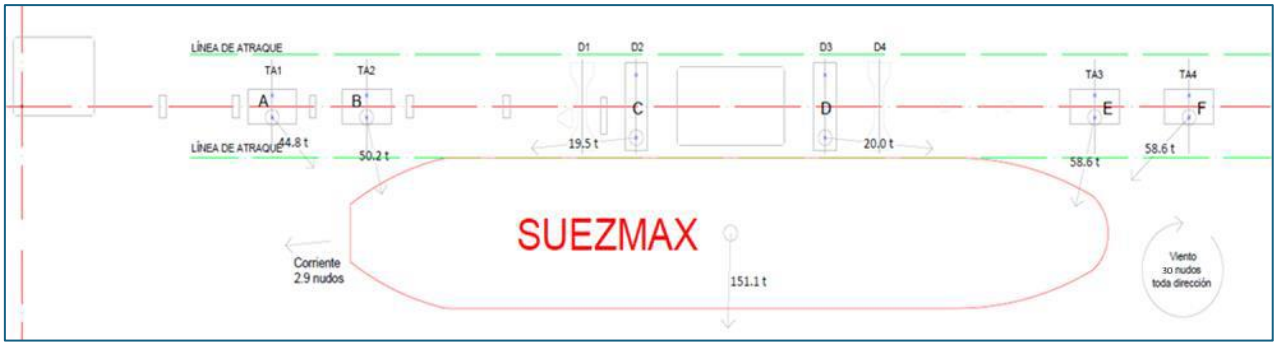


Illustration 18: Suezmax vessel

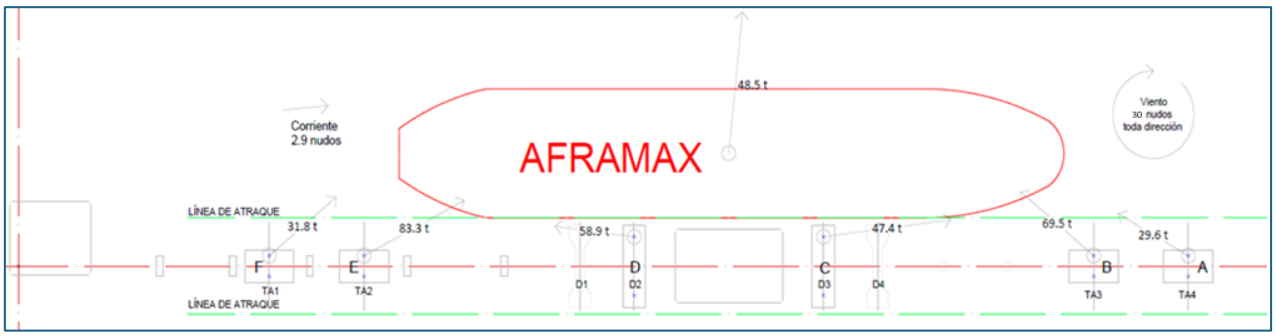


Illustration 19: Aframax vessel

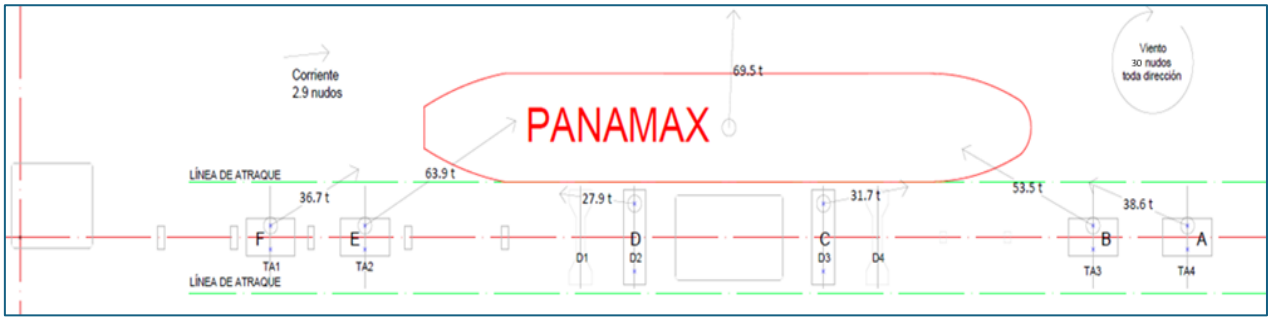


Illustration 20: Panamax vessel

11.3. Product Safety Data Sheet

CGC	Punta Loyola Terminal
	Material Safety data Sheet (Hoja de seguridad del material)

1 - PRODUCT AND COMPANY IDENTIFICATION

Terminal Operator:	Compañía General de Combustibles S.A.
Date:	01/10/2015
Address:	Alberdi 232, 9400 Rio Gallegos, Santa Cruz, Argentina
Product Owner:	Compañía General de Combustibles S.A.
Trade name:	Maria Inés Crude Oil
Synonyms:	Crudo Maria Ines

2 - COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME: MARIA INES CRUDE
OIL INGREDIENT: CRUDE OIL

3 - HAZARDS INDENTIFICATION

EYE CONTACT: MILD IRRITATION
SKIN CONTACT: MILD IRRITATION
INGESTION: VOMITING, DIARRHEA, HEADACHE AND TIREDNESS
INHALATION: IRRITATION, COUGHING, SHORTNESS OF BREATH SYSTEMIC AND
OTHERS EFFECTS: SUSPECT CARCINOGEN

4 - FIRST - AID MEASURES

INHALATION: REMOVE VICTIM TO FRESH AIR. SEEK MEDICAL AID
SKIN CONTACT: WASH SKIN WITH SOAP AND WATER
EYE CONTACT: WASH WITH LARGE AMOUNT OF WATER FOR 15 MINUTES
INGESTION: GIVE MILK OR WATER TO DRINK. DO NOT INDUCE VOMITING

NOTES TO PHYSICIAN: THE SAYBOLT VISCOSITY OF THIS MATERIAL IS APROXIMATLY 45 S.U.S AT- O.5 °C., THUS ASPIRATION INTO THE LUNG FOLLOWIN INGESTION IS UNLIKELY TO OCCUR. REMOVE ALL RESIDUES BECAUSE THIS PRODUCT MAY CONTAINS POTENCIAL HUMAN CARCINOGENICS.

5 - FIRE - FIGHTING MEASURES

EXTINGUISHING MEDIA:
SUITABLE: CO2, DRY CHEMICAL, FOAM

NOT SUITABLE: WATER SPRAY

Material Safety Data Sheet/ MICO (page 1 of 5)

SPECIAL FIRE FIGHTING PROCEDURE	WEAR SELF-CONTAINED BREATHING, APPARATUS WHEN IN A CONFINED AREA. AVOID INHALATION OF FUMES. WATER OR FOAM MAY CAUSE FROTHING.
UNUSUAL FIRE OR EXPLOSION HAZARD:	WATER MAY BE.
INEFFECTIVE PROTECTION OF FIREFIGHTERS:	DO NOT USE WATER SPRAY.

6 - ACCIDENTAL RELEASE MEASURE

PERSONAL PRECAUTIONS:	ELIMINATE AL IGNITION SOURCES. REMOVED SOILED CLOTHING. USE OIL IMPERVIOUS GLOVE IF EXTENDED DIRECT CONTACT WITH RESIDUES IS EXPECTED.
ENVIROMENTAL PRECAUTIONS:	PREVENT ENTRY IN WATER AND WATER WAYS. HARMFUL TO AQUATIC LIFE IN HIGH CONCENTRATIONS.
METHOD FOR CLEANING UP:	
SMALL SPILLS:	TAKE UP WITH NON - COMBUSTIBLE ABSORBENT SUCH AS A FULLER'S EARTH OR SAND. PLACE INTO CONTAINERS FOR LATER DIPOSAL.
LARGE SPILLS:	CONTROL SPILL EARTHEN DIKES FOR LATER RECOVERY. CONTROL IGNITION SOURCES AROUND SPILL AREA.

7 - HANDLING AND STORAGE

HANDLING AND
STORAGE
HANDLING
PREVENTION OF USER EXPOSURE: HARMFUL IF SWALLOWED OR INGESTED.
HANDLE AS A POTENCIAL CARCINOGEN.
PREVENTION OF FIRE AND
EXPLOSION: VENTILATION:
LOCAL: IN CONFINED AREA MECHANICAL VENTILATION MAY BE REQUIRED
GENERAL: USE IN WELL VENTILATED AREA
STORAGE
STORAGE CONDITIONS:
SUITABLE: COOL AREA.
AVOID: FIRE AND IGNITION SOURCES

INCOMPATIBLE PRODUCTS: STRONG OXIDANT, CORROSIVE MATERIALS.
PACKAGING MATERIAL:
RECOMMENDED: DRUMS, TANKS, TANKTRUCKS
NOT SUITABLE: STRONG OXIDANTS OR CORROSIVE MATERIALS

8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

PERMITTED THRESHOLD AIR CONCENTRATIONS: NO DATA
PERSONAL PROTECTIVE EQUIPMENT:
RESPIRATORY PROTECTION: USE APPROVED ORGANIC RESPIRATOR
HAND PROTECTION: GLOVES (BUNA - N AND POLY - D)
EYE PROTECTION: USE CHEMICAL SPLASH GOGGLES IF SLASHING IS ANTICIPATED.
SKIN AND BODY PROTECTION: BODY COVERIN PROTECTION WHEN HANDLING LIQUID
OTHER CLOTHING OR EQUIPMENT: WEAR COVERALL CLOTHING WORK

SPECIAL PRECAUTIONS INFORMATION
HYGIENE MESURES: IF GARMENTS BECOME SOAKED WITH HYDROCARBON LIQUIDS, THEY MUST BE INMEDIATLY CHANGED.

9 - PHYSICAL AND CHEMICAL PROPERTIES

COMBUSTIBLE	**YES**	FLAMMABLE	**YES**	PYROPHORIC	**NO**
COMPRESSED	**NO**	ORGANIC PEROXIDE	**NO**	REACTIVITY	**NO**
EXPLOSIVE	**YES**	OXIDIZER	**NO**	STABLE	**NO**

BOILING POINT:	N/D
SPEIFIC GRAVITY:	
VAPOR DENSITY:	N/D
% VOLATILE BY VOLUME:	N/D
MELTING POINT:	N/D
VAPOR PRESURE:	9 PSI
SOLUBILITY IN H20 % BY WEIGHT:	INSOLUBLE
PH OF UNDILUTED PRODUCT:	N/D
APPEARANCE AND ODOR:	DARK BROWN - COMBUSTIBLE ODOR

FIRE AND EXPLOSION DATA

FLASH POINT:	N/D		
FLASH POINT, CLOSE CUP:	N/D		
FIRE POINT, COC:	N/D		
NFPA RATING: HEALTH: 1	FLAMMABILITY: 1	REACTIBILITY:	0
FLAMMABLE LIMITS:	LOWER: N/D	UPPER: N/D	
EXTINGUISHING MEDIA:	CO_2, DRY CHEMICAL, FOAM		

SPECIAL FIRE FIGHTING PROCEDURE: WEAR SELF-CONTAINED BREATHING APPARATUS WHEN IS A CONFINED AREA. AVOID INHALATION OF FUMES. WATER OR FOAM MAY CAUSE FROTHING.
UNUSUAL FIRE OR EXPLOSION HAZARD: WATER MAY BE INEFFECTIVE.

10 - STABILITY AND REACTIVITY

STABILITY: STABLE
INCOMPATIBILITY: N/D
CONDITIONS CONTRIBUTING TO INESTABILITY: EXCESSIVE HEAT
HAZARDOUS DECOMPOSITION PRODUCTOS: CO_2.
CONDITIONS CONTRIBUTING TO HAZARDOUS POLIMERIZATION: NONE

11 - TOXICOLOGICAL INFORMATION

CARCINOGEN	**YES**	CORROSIVE	**NO**
ANIMAL CARCINOGEN	**YES**	IRRITANT	**NO**
SUSPECT CARCINOGEN	**YES**	SENSITIZER	**NO**
MUTAGEN	**NO**	TERATOGEN	**NO**
HIGHLY TOXIC	**NO**	TARGET ORGAN	**NO**
TOXIC	**NO**		

TOXICITY SUMMARY: IT HAS DETERMINATE THAT THESE ARE SUFFICIENT EVIDENCE THAT **VGO** CAUSES CANCER IN LABORATORY ANIMAL.
MAJOR ROUTE OF ENTRY: INHALATION O FUMES OR MISTS
ACUTE EXPOSURE SYMPTOMS
INHALATION: FUMES MAY CAUSE CENTRAL NERVOUS SYSTEM AND MODERATELY TOXIC TO INTERNAL ORGANS.

DERMAL CONTACT:	PROONGED OR REPEATED EXPOSURE MAY CAUSE SKIN CANCER AN DRYING CRACKING, DERMATITIS, OR FOLLICULITIS.
EYE CONTACT:	NOT EXPECTED TO CAUSE PROLONGED OR SIGNIFICANT EYE IRRITATION.
INJECTION:	N/D.
CHRONIC EXPOSURE:	THE PROLONGEO OR REPEATED INHALATION EXPOSURE MAY CAUSE CANCER, CHEMICAL PHENEUMONITIS, DRYING CRAKING, DERMATITIS, OR FOLLICULITIS.
OTHER SPECIAL EFFECTS:	NONE

12 - ECOLOGICAL INFORMATION

ECOTOXICITY:
AQUATIC TOXICITY SCALE

EXTREMELY TOXIC	**< 10 %**
HIGH TOXICITY	**10 % - 30 %**
TOXIC	**31 % - 60 %**
LOW TOXICITY	**61 % - 89 %**
NON TOXIC	**90 % - 100 %**
TOXICITY OF CHEMICALS	**N/D**
HAZARD CATEGORIES	**TOXIC**

13 - DISPOSAL METHODS.

INCINERATE (APPROVAL OF ENVIRONMENTAL AUTHORITIES REQUIRED) OIL AND SLIGHTLY CONTAMINATED OIL MAY BE RECICLES IN A REFINERY.

14 - TRANSPORT INFORMATION

INTERNATIONAL REGULATIONS FOR TRANSPORT

DOT/UN SHIPPING NAME:	MARIA INES CRUDE OIL
HAZARD CLASS/DOT:	NON – HAZARDOUS
IDENTIFICACION NUMBER:	N/D
DOT PLACARD/DOT:	NOT REQUIRED

SPECIFIC CAUTION CANCER SUSPECT AGENT.

	Clasification DOT	IMGD	IATA
NUMBER ONU	UN 1267	UN 1267	UN 1267
OFICIAL NAME OF TRANSPORT FOR ONU	CRUDE OIL	CRUDE OIL	CRUDE OIL
TYPE OF HAZARDS FOR TRANSPORTATION	 flamable Clase 3  Dangerous for the acuatic enviro	 flamable Clase 3  Dangerous for the acuatic enviro	 flamable Clase 3

	 Dangerous for the environment	 Dangerous for the environment	
GROUP OF PACKAGING	I	I	I
ENVIROMENTAL HAZARDS	YES	YES	
Transportation whit in of the premises of the users: always transport in closed recipients, verticals and insurances. Be shure that the people who transport the product, know what he to do in case of accident or leak.			

15 - REGULATORY INFORMATION

LABELING CANCER SUSPECT AGENT.
SIMILAR PRODUCTS HAS BEEN SHOWN TO CAUSE CANCER IN LABORATORY ANIMALS. AVOID PROLONGED OR REPEATED SKIN CONTACT WITH THIS MATERIAL.

16 - OTHER INFORMATION

SPECIAL TRAINING: APPLICATION, HANDLING, STORAGE AND TRANSPORTATION RECOMMENDED USE: INDUSTRIAL
POSSIBLE RESTRICTIONS OF CHEMICAL PRODUCT: WATER CONTAMINATING
POSSIBLE LITERATURE REFERENCE:
N/D

GENERAL INFORMATION

ALL STATEMENTS, INFORMATION, AND DATA PROVIDED IN THIS MATERIAL SAFETY DATA SHEET ARE BELIEVED TO BE ACCURATE AND RELIABLE, BUT ARE PRESENT WITHOUT GUARANTEE, REPRESENTATION, WARRANTY, OR RESPONSABILITY OF ANY KIND, EXPRESSED OR IMPLIED. ANY AND ALL REPRESENTATIONS AND/OR WARANTIES OF MERCHANTIBILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINATE THE SUITABILITY OF THE INFORMATION OR PRODUCT FOR THEIR PARTICULAR PURPOSE. NOTHING CONTAINED HEREIN IS INTENDED AS PERMISSION, INDUCEMENT, OR RECOMMENDATION TO VIOLATE ANY LAWS OR TO PRACTICE ANY INVENT IN COVERED BY EXISTING PATENTS, COPYRIGHTS OR INVENTIONS.

TERMINAL OPERATOR
Compañía General de Combustibles S.A.

MATERIAL SAFETY DATA SHEET - CAÑADON SECO CRUDE OIL

In compliance with Resolution MSC 286 (86) MARPOL MSDS recommendations guide – ANNEX I | Rev. 1 | Nov 2010 | Page 1 of 6

1. PRODUCT IDENTIFICATION

Termap **TERMINALES MARÍTIMAS PATAGÓNICAS S.A.** **Address: Sáenz Peña 796 5to Piso - Edificio ESPARTA.** **Tel: #54 297 4474400- 4472031 - 4473500** **Fax: # 54 297 4479291**	**TRADE NAME**: CAÑADON SECO CRUDE OIL **CHEMICAL NAME:** Petroleum	
	OTHER SYNONYMS: Crude petroleum **CATEGORY:** Crude oil (1.1 MARPOL Annex 2)	
	FORMULA: Complex Hydrocarbon Mixture	**CAS No:** 8002-05-9
Emergency Phone: #54 297 4852686	**CE (EINECS) No:** 232-298-5 **ANNEX I** (Dir.67/548/CEE): 649-049-00-5	**UN No:** 1267 **HAZARD IDENTIFICATION No:** 33

2. HAZARD(S) IDENTIFICATION

PHYSICAL/CHEMICAL	TOXICOLOGICAL (SYMPTOMS)
Flammable liquids and vapors: Category 3	**Inhalation**: Prolonged and repeated exposure to vapors and mists may cause headache, nausea, drowsiness, and dizziness. At high temperatures and/or mechanical agitation, higher than usual amounts of hydrogen sulfide vapors may be released. These vapors are toxic and may irritate the respiratory tract and cause dizziness, vomiting, pulmonary edema, and central nervous system disorders. **Ingestion/ Aspiration**: It is not frequent, but if it occurs, it may cause gastrointestinal imbalances. Aspiration into the lungs during ingestion or vomiting may cause lung damage. Vomiting should not be induced if swallowed. **Skin/eyes contact:** Prolonged or repetitive contact may cause irritation and dermatitis. Contact with hot product may cause burns. Vapors, mist or fumes may cause irritation and conjunctivitis.
	General toxic effects: Product may cause irritation of the respiratory tract, skin and eyes, and in extreme cases of prolonged contact with some of the components of the oil, may cause cancer. Aspiration into the lungs during ingestion or vomiting may cause lung damage. Contact with hot product may cause burns. Toxic to aquatic life with long lasting effects.

3. COMPOSITION

General composition: Complex combination of hydrocarbons, mostly composed of aliphatic, alicyclic, and aromatic hydrocarbons. May also contain small amounts of nitrogen, oxygen and sulfur compounds.

Hazardous Components	Percent	Classification	
		R	S
Petroleum; Crude oil.	99.99999	F+;R12	S45-53-61
Hydrogen sulfide	0.00001	Carc.Cat.2;R45 R67 R52/53	

MATERIAL SAFETY DATA SHEET - CAÑADON SECO CRUDE OIL

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4. FIRST-AID MEASURES

Inhalation: Remove the person to fresh air. If breathing is difficult, administer medical oxygen and/or request immediate medical attention.

Ingestion/Aspiration: It is not frequent, but if it occurs, it may cause gastrointestinal imbalances. Aspiration into the lungs during ingestion or vomiting may cause lung damage. Vomiting should not be induced if swallowed. Request immediate medical attention.

Skin/eyes contact: Remove immediately all contaminated clothing. Wash the area with plenty of soap and water for 15 minutes. If in contact with the eyes, wash with plenty of water for 15 minutes.

General measures: In case of any type of contact, you should first ask for medical attention, then continue with the measures specified above.

5. FIRE-FIGHTING MEASURES

Extinguishing measures: The most effective method is to inject appropriate foams inside the cisterns or containment tanks. Use water spray only externally for cooling. Only in particular cases, chemical powder and $C0_2$ may be appropriate.

Contraindications: Never use direct water on or inside hydrocarbon containers.

Hazardous combustion products: $C0_2$, H_20, SO_x No_x, CO (in case of incomplete combustion). Nitrogen and sulfur oxides in the presence of water may form acidic vapors.

Special measures: Keep containers with product away from the fire area. Cool containers exposed to flames. If the fire cannot be extinguished, let it burn out in a controlled manner. Consult and apply emergency plans.

Special Hazards: Flammable product. Vapors are heavier then air and may travel to distant ignition sources and ignite. Containers may explode in the heat of the fire. Light hydrocarbon vapors may accumulate in the fume chamber of containers (above the liquid and up to the ceiling), with risk of flammability/explosion even at temperatures below the flash point of the product. Danger or explosion of vapors inside, outside, in ducts, grates and sewers.

Personal Protection Equipment: Wear heat-resistant firefighting clothing. In case of high vapor or fume concentration, wear masks for organic vapors, acidic gases and SH_2. In case of absence or low oxygen content, wear self-contained or assisted breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions: Toxic to aquatic life with long lasting effects. Spillage may form a layer above the surface avoiding oxygen transfer. Action must be taken following the established Emergency Plan.	**Personal precautions:** Action must be taken following the established Emergency Plan. General: isolate the area. Prohibit entrance to unnecessary personnel. Avoid low areas where vapors may accumulate. Avoid ignition sources (equipment or hot work, cigarettes, electrical or electronic devices not approved for classified areas). Avoid spillage towards sensitive areas like water wells, community recreational areas, or ecologically sensitive areas.
Detoxification and cleaning-up: Small spills: Collect with sand or other non-combustible absorbents and place in containers for later disposal. Large spills: Prevent the extension of the liquid mirror with barriers (dikes) to facilitate the recovery and later disposal of the waste generated. In all cases, the emergency plans established in accordance with the legislation of the place where the spill occurs must be followed.	**Personal protection:** Wear PVC gloves. Rubber boots with steel toes. Eye protection. Facial masks or a Self-contained Breathing Apparatus, if necessary.

MATERIAL SAFETY DATA SHEET - CAÑADON SECO CRUDE OIL

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7. HANDLING AND STORAGE

Handling:

General Precautions: Wear adequate protective clothing to avoid contact with the product, safety glasses if there is any risk of spraying, and respiratory protection if necessary. Do not smoke in areas where the material is handled. For transfer, use electrically grounded equipment.

Specific precautions: Efficient explosion-proof local ventilation system and mechanical ventilation in confined areas. Special procedures for container loading, cleaning and maintenance to avoid exposure. Do not pressurize, cut or weld in the vicinity of containers with product. Follow the same instructions for empty containers. Before making any repairs to a tank, make sure that it is properly purged and washed, and check there is no explosive atmosphere inside. Toxic vapor may be released during the purging operation (SH_2).

Storage:

Temperature and breakdown products: Carbon, sulfur and nitrogen dioxides; hydrogen sulfide.

Hazardous reactions: Flammable material. Reactive to high temperature or pressure.

Storage conditions: Properly closed and labeled containers, placed in well-ventilated areas. Keep the containers away from heat, sparks, flames and other ignition sources.

Incompatible materials: Strong oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection equipment:

Eye protection: Gafas Safety glasses. Emergency eyewash and shower.

Respiratory protection: Respiratory protection mask in the presence of vapors. In case of high concentrations of vapor and/or absence of oxygen and/or presence of contaminants directly hazardous to health according to regulations, self-contained breathing apparatus or clean air supply equipment must be used.

Skin protection: PVC gloves. Suitable anti-static safety footwear.

Other protection: Emergency showers in the working area.

General precautions: Avoid contact with the skin and eyes, and inhalation of combustion vapors or fumes.

Workplace hygiene practices: If clothing has been contaminated with product, it must be taken off and washed with plenty of water to avoid the risk of ignition, and be removed as quickly as possible outside the radius of action of any ignition source. Do not smoke, eat or drink in the areas where the product is handled. Follow skin care and hygiene measures, frequently washing with soap and water and applying protective creams.

Exposure controls:

TLV/TWA (ACGIH) (H_2S): 10 ppm (14 mg/m3)
TLV/STEL (ACGIH) (H_2S): 15 ppm (21 mg/m^3)
PEL/TWA (OSHA): 500 ppm (2000 mg/m^3)
REL/TWA (NIOSH): 350 mg/m^3
REL (NIOSH): 1.8 g/m^3 Ceiling exposure value

MATERIAL SAFETY DATA SHEET - CAÑADON SECO CRUDE OIL

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Oily and viscous liquid. **Color**: Black.	**pH**: NP **Odor:** Caracteristic.
Boiling point: <0°C-550-C (ASTM D-2892)	**Melting point/freezing point**: no data
Flash point/flammability: < 0°C	**Autoignition temperature:** No data
Explosive properties: No	**Oxidizing properties**: No
Vapor pressure: 1.23 psig at 40°C	**Density**: 0.905 g/cm^3 at 15°C
Surface tension: aprox. 26x10-3 (N/m)	**Viscosity:** 1701 cSt (at 20°C) 330 cSt (at 40°C)
Vapor density: No data. Relative density > 1	**Partition coefficient (n-octanol/water)**: No data
Solubility in water: Very low or absent. Only some components.	**Solubility:** In organic solvents.
Other data: Sulfur: 0.189% max. mass. **Pour point temperature:** -4 °C	

10. STABILITY AND REACTIVITY

Stability: Flammable.	**Conditions to avoid:** Exposure to flames, heat or static electricity.
Incompatible materials: Strong oxidizers.	
Hazardous combustion/decomposition products: CO (in incomplete combustion), irritant aldehydes and acetones. Hydrogen sulfide, carbon, sulfur and nitrogen oxides may be released.	
Hazardous polymerization: No data	**Conditions to avoid:** static electricity, intense heat, sparks, fire, peroxides.

11. TOXICOLOGICAL INFORMATION

Routes of exposure: Inhalation and contact with skin and eyes. Accidental ingestion.

Acute and chronic effects: The inhalation of vapors and mists may cause irritation of the respiratory tract, headaches, drowsiness, vomiting, pulmonary edema, and central nervous system disorders. Ingestion may cause gastrointestinal imbalances. Aspiration into the lungs during ingestion or vomiting may cause lung damage. Contact with the skin or eyes may cause irritation. Prolonged and repeated exposure to some components may cause cancer.

Carcinogenicity: IARC classification: **Group 3** (Not classifiable as to its carcinogenicity to humans).
Some samples may contain benzene in values from 0.05 to 0.1% w/w (0.01% w/w value established by MARPOL Annex 2)

Toxicity for reproduction: No data

Medical conditions aggravated by exposure: Respiratory problems and dermatological conditions. Ingestion of alcohol promotes the intestinal absorption of the oil.

MATERIAL SAFETY DATA SHEET - CAÑADON SECO CRUDE OIL

In compliance with Resolution MSC 286 (86) MARPOL MSDS recommendations guide – ANNEX I Rev. 1 Nov 2010 Page 5 of 6

12. ECOLOGICAL INFORMATION

Form and contaminant potential:

Persistence and degradability: The oil floats in the water and presents a potential physical damage. Classified as group III according to IOPC (Internacional OIL Polution Compensation) Group III classification. Field experiences published in international literature estimate a degradability of 99% in 30 to 60 days fro crude oil (Group III/IV) spilled at sea in temperate conditions without major agitation and with the presence of microorganisms that act in biodegradation.

Mobility/Bioaccumulation: The bioaccumulation potential of these materials in the environment is low. May contain some metals with bioaccumulative capacity.

Effect on environment: Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Methods of disposal of the substance (surplus): In each country and/or region within the country, the regulations in force must be observed. Each case requires a thorough analysis of the general conditions to identify the best disposal method.

Waste:

*Disposal:*Highly contaminated materials may be incinerated (check applicable regulations for each case). Less contaminated materials can be deposited in controlled landfills.

Handling: Materials contaminated by the product present the same risks and require the same precautions as the product. They must be considered toxic and hazardous waste. Never dispose of the product in drains or sewers.

Provisions: Companies dedicated to the recovery, disposal and transportation of waste must comply with existing waste management regulations or other municipal, provincial and/or national regulations in force.

14. TRANSPORT INFORMATION

Special precautions: Flammable liquid.

Additional information:

UN No: 1267	ADR/RID: Class 3. Classification Code: FI. Packing Group: I
Hazard Identification Number: 33	IATA-DGR Class 3. Packing Group I
Proper Shipping Name: PETROLEUM CRUDE OIL	IMDG: Class 3. Packing/Packaging Group: I

MATERIAL SAFETY DATA SHEET - CAÑADON SECO CRUDE OIL

In compliance with Resolution MSC 286 (86) MARPOL MSDS recommendations guide – ANNEX I Rev. 1 Nov 2010 Page 6 of 6

15. REGULATORY INFORMATION

CLASSIFICATION

F+; R12
Carc.Cat.2: R45
R67
R52/53

LABELING
Symbols: F+, T.

R Phrases
R12: Extremely flammable.
R45: May cause cancer.
R67: Vapors may cause drowsiness and dizziness.
R52/53: Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Frases S
S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
S53: Avoid exposure - Obtain special instructions before use.

S61: Avoid release to the environment. Refer to special instructions/safety data sheet.

Other regulations:

16. OTHER INFORMATION

Consulted databases:
EINECS; European Inventory of Existing Commercial Substances.
TSCA: Toxic Substances Control Act, US Environmental Protection Agency
HSDB: US National Library of Medicine.
RTECS: US Dept. of Health & Human Services

R phrases included in the document:

Consulted regulations:
Dir. 67/548/CEE on classification, packaging and labeling of dangerous substances (including amendments and adaptations in force).
Dir. 1999/45/CE on classification, packaging and labeling of dangerous preparations (including amendments and adaptations in force).
Dir. 2001/58/CE on Safety Data Sheets (including amendments and adaptations in force).
Dir. 91/689/CEE on hazardous waste. / Dir. 91/156/CEE on waste.
Royal Decree 363/95: Regulation about notification of new substances and classification, packaging and labeling of dangerous substances.
Royal Decree 255/2003: Regulation about classification, packaging and labeling of dangerous preparations.
Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
Agreement concerning the International Carriage of Dangerous Goods by Rail (RID).
International Maritime Dangerous Goods (IMDG) Code.
Res 285/2005 MTESS on Occupational Health and Safety. (MTESS: Argentine Ministry of Labor, Employment, and Social Security)
Res 195/2003 SOPT General Regulations on the Transport of Dangerous Goods (SOPT: Argentine Ministry of Public Works and Services)
MARPOL
ITOPF HANDBOOK
IATA Dangerous Goods Regulation (DGR) on the transport of dangerous goods by air. (IATA: International Air Transport Association)

Glossary

CAS: Chemical Abstracts Service
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists.
TLV: Threshold Limit Value
TWA: Time Weighed Average
STEL: Short-Term Exposure Limit
REL: Recommended Exposure Limit
PEL: Permitted Exposure Limit
INSHT: National Institute for Occupational Health and Safety (Spanish acronym)
ELV-DEL: Exposure Limit Value – Daily Exposure Limit
ELV-STEL: Exposure Limit Value – Short-term Exposure Limit
LD_{50}: Median Lethal Dose
LC_{50}: Median Lethal Concentration
EC_{50}: Median Effective Concentration
IC_{50}: Median Inhibitory Concentration
BOD: Biological Oxygen Demand.
NA: Not applicable
]: Changes to the previous revision

The information provided in this document has been compiled based on the best available sources, and in accordance with the latest available knowledge and current legal requirements on classification, packaging and labeling of hazardous substances. This does not imply that the information is exhaustive in all cases. It is the responsibility of the user to determine the validity of this information for its application in each case.

MATERIAL SAFETY DATA SHEET - ESCALANTE CRUDE OIL

In compliance with Resolution MSC.286(86) MARPOL MSDS recommendations guide - ANNEX I | Rev 3 | April 2020 | Page 1 of 5

1. PRODUCT IDENTIFICATION

Termap **TERMINALES MARÍTIMAS PATAGÓNICAS S.A.** **Address: Sáenz Peña 796 5to Piso - Edificio ESPARTA.** **Tel: 54 297 4474400- 4472031 - 4473500** **Fax: 54 297 4479291**	**TRADE NAME**: CRUDE OIL ESCALANTE **CHEMICAL NAME:** Petroleum	
	OTHER SYNONYMS: Crude petroleum **CATEGORY:** Crude oil (1.1 MARPOL Annex 2)	
	FORMULA: Complex Hydrocarbon Mixture	**CAS No**: 8002-05-9
Emergency Phone: #54 297 4590056	**CE (EINECS) No**: 232-298-5 **Annex I (Dir.67/548/CEE)**: 649-049-00-5	**UN No:** 1267 **HAZARD IDENTIFICATION No:** 33

2. HAZARD(S) IDENTIFICATION

PHYSICAL/CHEMICAL	TOXICOLOGICAL (SYMPTOMS)
Flammable liquids and vapors: Category 3	**Health hazards:**  **Inhalation**: Prolonged and repeated exposure to vapors and mists may cause headache, nausea, drowsiness, and dizziness. At high temperatures and/or mechanical agitation, higher than usual amounts of hydrogen sulfide vapors may be released. These vapors are toxic and may irritate the respiratory tract and cause dizziness, vomiting, pulmonary edema, and central nervous system disorders. **Ingestion/ Aspiration**: It is not frequent, but if it occurs, it may cause gastrointestinal imbalances. Aspiration into the lungs during ingestion or vomiting may cause lung damage. Vomiting should not be induced if swallowed. **Skin/eyes contact:** Prolonged or repetitive contact may cause irritation and dermatitis. Contact with hot product may cause burns. Vapors, mist or fumes may cause irritation and conjunctivitis **General toxic effects:** Product may cause irritation of the respiratory tract, skin and eyes, and in extreme cases of prolonged contact with some of the components of the oil, may cause cancer. Aspiration into the lungs during ingestion or vomiting may cause lung damage. Contact with hot product may cause burns. Toxic to aquatic life with long lasting effects. **Physical hazards:**  Highly flammable.

MATERIAL SAFETY DATA SHEET - ESCALANTE CRUDE OIL

3. COMPOSITION

General composition: Complex combination of hydrocarbons, mostly composed of aliphatic, alicyclic, and aromatic hydrocarbons. It may also contain small amounts of nitrogen, oxygen and sulfur compounds.

Hazardous Components	Range % [mass]	Classification	
		R	S
Crude oil/Petroleum	99,89999	F+;R12	S45-53-61
Hydrogen sulfide	0,00001	Carc.Cat. 2; R45	
Benzene	0,1	R67	
		R52/53	

4. FIRST-AID MEASURES

Inhalation: Remove the person to fresh air. If breathing is difficult, administer medical oxygen and/or request immediate medical attention.

Ingestion/Aspiration: It is not frequent, but if it occurs, it may cause gastrointestinal imbalances. Aspiration into the lungs during ingestion or vomiting may cause lung damage. Vomiting should not be induced if swallowed. Request immediate medical attention.

Skin/eyes contact: Remove immediately all contaminated clothing. Wash the area with plenty of soap and water for 15 minutes. If in contact with the eyes, wash with plenty of water for 15 minutes.

General measures: In case of any type of contact, you should first ask for medical attention, then continue with the measures specified above.

5. FIRE-FIGHTING MEASURES

Extinguishing measures: The most effective method is to inject appropriate foams inside the cisterns or containment tanks. Use water spray only externally fo cooling. Only in particular cases, chemical powder and C02 may be appropriate.

Contraindications: Never use direct water jet or inside hydrocarbon containers.

Hazardous combustion products: C02, H20, SOx Nox, CO (in case of incomplete combustion). Nitrogen and sulfur oxides in the presence of water may form acidic vapors.

Special measures: Keep containers with product away from the fire area. Cool containers exposed to flames. If the fire cannot be extinguished, let it burn out in a controlled manner. Consult and apply emergency plans.

Special Hazards: Flammable product. Vapors are heavier than air and may travel to distant ignition sources and ignite. Containers may explode in the heat of the fire. Light hydrocarbon vapors may accumulate in the fume chamber of containers (above the liquid and up to the ceiling), with risk of flammability/ explosion even at temperatures below the flash point of the product. Danger or explosion of vapors inside, outside, in ducts, grates and sewers.

Personal Protection Equipment: Wear heat-resistant firefighting clothing. In case of high vapor or fume concentration, wear masks for organic vapors, acidic gases and SH2. In case of absence or low oxygen content, wear self-contained or assisted breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions: Toxic to aquatic life with long-lasting effects. Spillage may form a layer above the surface, avoiding oxygen transfer. Action must be taken following the established Emergency Plan.	**Personal precautions:** Action must be taken following the established Emergency Plan. General: isolate the area. Prohibit entrance to unnecessary personnel. Avoid low areas where vapors may accumulate. Avoid ignition sources (equipment or hot work, cigarettes, electrical or electronic devices not approved for classified areas). Avoid spillage towards sensitive areas like water wells, community recreational areas, or ecologically sensitive areas.
Detoxification and cleaning-up: Small spills: Collect with sand or other non-combustible absorbents and place in containers for later disposal. Large spills: Prevent the extension of the liquid mirror with barriers (dikes) to facilitate the recovery and later disposal of the waste generated. In all cases, the emergency plans established in accordance with the legislation of the place where the spill occurs must be followed.	**Personal protection:** Wear PVC gloves. Rubber boots with steel toes. Eye protection. Facial masks or a Self-contained Breathing Apparatus, if necessary

MATERIAL SAFETY DATA SHEET - ESCALANTE CRUDE OIL

In compliance with Resolution MSC.286(86) MARPOL MSDS recommendations guide - ANNEX I Rev 3 April 2020 Page 3 of 5

7. HANDLING AND STORAGE

Handling:

General Precautions: Wear adequate protective clothing to avoid contact with the product, safety glasses if there is any risk of spraying, and respiratory protection if necessary. Do not smoke in areas where the material is handled. For transfer, use electrically grounded equipment.

Specific precautions: Efficient explosion-proof local ventilation system and mechanical ventilation in confined areas. Special procedures for container loading, cleaning and maintenance to avoid exposure. Do not pressurize, cut or weld in the vicinity of containers with product. Follow the same instructions for empty containers. Before making any repairs to a tank, make sure that it is properly purged and washed, and check there is no explosive atmosphere inside. Toxic vapor may be released during the purging operation (SH2).

Storage:

Temperature and breakdown products: Carbon, sulfur and nitrogen dioxides; hydrogen sulfide.

Hazardous reactions: Flammable material. Reactive to high temperature or pressure.

Storage conditions: Properly closed and labeled containers, placed in well-ventilated areas. Keep the containers away from heat, sparks, flames and other ignition sources.

Incompatible materials: Strong oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection equipment:

Eye protection: Safety glasses. Emergency eyewash and shower.

Respiratory protection: Respiratory protection mask in the presence of vapors. In case of high concentrations of vapor and/or absence of oxygen and/or presence of contaminants directly hazardous to health according to regulations, self-contained breathing apparatus or clean air supply equipment must be used.

Skin protection: PVC gloves. Suitable anti-static safety footwear.

Other protection: Emergency showers in the working area.

General precautions: Avoid contact with the skin and eyes, and inhalation of combustion vapors or fumes.

Workplace hygiene practices: If clothing has been contaminated with product, it must be taken off and washed with plenty of water to avoid the risk of ignition, and be removed as quickly as possible outside the radius of action of any ignition source. Do not smoke, eat or drink in the areas where the product is handled. Follow skin care and hygiene measures, frequently washing with soap and water and applying protective creams.

Exposure controls:

TLV/TW A (ACGIH) (H2S): 10 ppm (14 mg/m3) TLV/STEL (ACGIH) (H2S): 15 ppm (21 mg/m3) PEL/TW A (OSHA): 500 ppm (2000 mg/m3) REL/TW A (NIOSH): 350 mg/m3

REL (NIOSH): 1.8 g/m3 Ceiling exposure value

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Oily and viscous liquid. **Color:** Black.	**pH:** NA **Odor:** Characteristic to oils, naphtas, solvents.
Boiling point: <0°C-550-C (ASTM D-2892)	**Melting point/freezing point:** No data
Flash point/flammability: 23,5 °C ASTM D56 - 34°C ASTM D92	**Autoignition temperature:** No data
Explosive properties: No data	**Oxidizing properties:** NA
Vapor pressure: 1.03 psig at 40 °C	**Density:** 0.91 g/cm³ at 15°C
Surface tension: approx. 26x10-3 (N/m)	**Viscosity:** 2540 cSt (at 20 °C) 280 cSt (at 40°C)
Vapor density: No data. Relative density > 1	**Partition coefficient (n-octanol/water):** No data
Solubility in water: Very low or absent. Only some components.	**Solubility:** In organic solvents.
Other data: Sulfur: 0.350 % mass (max.) **Pour point** temperature: +4 °C	

FICHA DE DATOS DE SEGURIDAD - CRUDO ESCALANTE
MATERIAL SAFETY DATA SHEET - ESCALANTE CRUDE OIL

10. STABILITY AND REACTIVITY

Stability: Flammable.

Conditions to avoid: Exposure to flames, heat or static electricity.

Incompatible materials: Strong oxidizers.

Hazardous combustion/decomposition products: CO (in incomplete combustion), irritant aldehydes and acetones. Hydrogen sulfide, carbon, sulfur and nitrogen oxides may be released.

Hazardous polymerization: No data

Conditions to avoid: static electricity, intense heat, sparks, fire, peroxides.

11. TOXICOLOGICAL INFORMATION

Routes of exposure: Inhalation and contact with skin and eyes. Accidental ingestion.

Acute and chronic effects: The inhalation of vapors and mists may cause irritation of the respiratory tract, headaches, drowsiness, vomiting, pulmonary edema, and central nervous system disorders. Ingestion may cause gastrointestinal imbalances. Aspiration into the lungs during ingestion or vomiting may cause lung damage. Contact with the skin or eyes may cause irritation. Prolonged and repeated exposure to some components may cause cancer.

Carcinogenicity: IARC classification: **Group 3** (Not classifiable as to its carcinogenicity to humans).

Some samples may contain benzene in values from 0.05 to 0.1% w/w (0.01% w/w value established by MARPOL Annex 2)

Toxicity for reproduction: No data

Medical conditions aggravated by exposure: Respiratory problems and dermatological conditions. Ingestion of alcohol promotes the intestinal absorption of the oil.

12. ECOLOGICAL INFORMATION

Form and contaminant potential:

Persistence and degradability: The oil floats in the water and presents a potential physical hazard. Classified as group III according to IOPC (International OIL Pollution Compensation) Group III classification. Field experiences published in international literature estimate a degradability of 99% in 30 to 60 days for crude oil (Group III/IV) spilt at sea in temperate conditions without major agitation and with the presence of microorganisms that act in biodegradation.
Mobility/Bioaccumulation: The bioaccumulation potential of these materials in the environment is low. May contain some metals with bioaccumulative capacity.

Effect on environment: Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Methods of disposal of the substance (surplus): In each country and/or region within the country, the regulations in force must be observed. Each case requires a thorough analysis of the general conditions to identify the best disposal method.

Waste:
Disposal: Highly contaminated materials may be incinerated (check applicable regulations for each case). Less contaminated materials can be deposited in controlled landfills.

Handling: Materials contaminated by the product present the same risks and require the same precautions as the product. They must be considered toxic and hazardous waste. Never dispose of the product in drains or sewers.

Regulations: Companies dedicated to the recovery, disposal and transportation of waste must comply with existing waste management regulations or other municipal, provincial and/or national regulations in force.

14. TRANSPORT INFORMATION

Special precautions: Highly flammable liquid.

Additional information:

UN No: 1267

Hazard Identification Number: 33

Proper Shipping Name: PETROLEUM CRUDE OIL

ADR/RID: Class 3.
Classification Code: FI. Packing Group: III
IATA-DGR Class 3. Packing Group III
IMDG: Class 3. Packing/Packaging Group: III

MATERIAL SAFETY DATA SHEET - ESCALANTE CRUDE OIL

15. REGULATORY INFORMATION

CODES FOR HAZARD STATEMENTS

H225- Highly Flammable liquid and vapor.	Category **3**
H350- May cause cancer by inhalation.	Category **1A- 1B**
H336- May cause drowsiness or dizziness	Category **2**
H303 + H313 Harmful if swallowed or in contact with skin.	Category **5**

GHS CLASSIFICATION

DANGER

16. OTHER INFORMATION

Consulted databases

EINECS: European Inventory of Existing Commercial Substances.
TSCA: Toxic Substances Control Act, US Environmental Protection Agency
HSDB: US National Library of Medicine.
RTECS: US Dept. of Health & Human Services

R phrases included in the document:

Consulted regulations

Dir. 91/689/CEE on hazardous waste. / Dir. 91/156/CEE on waste

Res 801/15 (SGA) - Globally Harmonized System of Classification and Labeling of Chemicals.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

International Maritime Dangerous Goods (IMDG) Code.

Res 295/2003 MTESS on Occupational Health and Safety. (MTESS: Argentine Ministry of Labor, Employment, and Social Security)

Dec Reg 779/95 Annex "S": General Regulations for the Road Transport of Dangerous Goods by Road.

IATA Dangerous Goods Regulation (DGR) on the transport of dangerous goods by air. (IATA: International Air Transport Association).

Glossary

CAS: Chemical Abstracts Service
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists.
TLV: Threshold Limit Value
TWA: Time Weighed Average
STEL: Short-Term Exposure Limit
REL: Recommended Exposure Limit
PEL: Permitted Exposure Limit
INSHT: National Institute for Occupational Health and Safety (Spanish acronym)

ELV-DEL: Exposure Limit Value – Daily Exposure Limit
ELV-STEL: Exposure Limit Value – Short-term Exposure Limit
LD50: Median Lethal Dose
LC50: Median Lethal Concentration
EC50: Median Effective Concentration
IC50: Median Inhibitory Concentration
BOD: Biological Oxygen Demand.
NA: Not applicable
]: Changes to the previous revision

The information provided in this document has been compiled based on the best available sources, and in accordance with the latest available knowledge and current legal requirements on classification, packaging and labeling of hazardous substances. This does not imply that the information is exhaustive in all cases. It is the responsibility of the user to determine the validity of this information for its application in each case.

MATERIAL SAFETY DATA SHEET
Hidra Crude Oil

1- PRODUCT AND/OR MANUFACTURER IDENTIFICATION

Product Name: Hidra Crude Oil (export quality)
Chemical Family: Natural substance. A complex combination of hydrocarbons, between C_6 and C_{25}
Formula: Mixture
Synonyms: Not applicable

Uses: Refining feedstock. Industrial use. Professional use.

Manufacturer/Supplier Information:
Total Austral Tel: +(54-11) 4346-6400 / +(54-02964) 435200
Tierra del Fuego (Argentina)

2- HAZARDS IDENTIFICATION

Classification:
This chemical is considered hazardous by Regulation (EC) No 1272 /2008

Flam.Liq. 1	H224
Eyeimt. 2	11319
Carc. IB	H350
STOT SE 3	H336
STOT RE 2	H373
Asp. Tox 1	11304
Aquatic Chronic 2	H411

Precautionary Statement
Danger

Hazzard Indication
H224 -Extremely flammable liquid and vapour
H3O4 - May be fatal if swallowed and enters airways
H319 -Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H35O May cause cancer
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long-lasting effects

Precautionary Statements
P201 - Obtain special instructions before use
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310 - If swallowed: Immediately call a poison center or doctor/physician

P331 - Do NOT induce vomiting

Additional Statements
EUH066 - Repeated exposure may cause skin dryness or cracking

Other hazards
Vapors may form explosive mixtures with air.

MATERIAL SAFETY DATA SHEET
Hidra Crude Oil

3- COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%	CAS No	EC Directive 67/548
Crude Oil	100	8002-05-9	Carc. Cat. 2; R45 F+; R12 Xn: R65 R66 R67 Xn; R48/21/22 N; R51/53

Chemical Name	%	CAS No	Classification as per CLP Regulation No 1272/2008 | EC |
Crude Oil	100	8002-05-9	Flam. Liq 1 H224 Eye Irrit.2H319 Carc. IB H350 STOT SE 3. H336 STOT RE 2 H373 Asp. Tox 1 H304 Aquatic Chronic 2, H411

Mixture
Not applicable

4- FIRST AIDS

Description of first aid measures

Inhalation: Remove the person to fresh air and keep in a position that facilitates breathing.
In case of doubt or symptoms, seek medical attention.

Skin contact: Remove contaminated clothing.
Wash skin gently with plenty of soap and water.
In case of doubt or symptoms, seek medical attention.

Eye contact: Immediately and carefully wash thoroughly in an eyewash station with water
Remove contact lenses, if present and easy to do, and continue rinsing
In case of doubt or symptoms, seek medical attention.

Ingestion: Clean mouth with water.
DO NOT induce vomit.
Immediately call a doctor.

Most important symptoms and effects, both acute and delayed

Inhalation: May cause drowsiness or dizziness
Skin contact: No adverse events are expected
Eye contact: Causes severe eye irritation
Ingestion: May be fatal if swallowed and enters airways.
Other adverse reactions: May cause damage to organs through prolonged or repeated exposure. May cause cancer.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Call a POISON CENTER or doctor/physician immediately if a large quantity has been swallowed or inhaled.
No specific treatment.

MATERIAL SAFETY DATA SHEET
Hidra Crude Oil

5- FIRE-FIGHTING MEASURES

Medios de extinción

Suitable extinguishing media: water spray, alcohol-resistant foam, dry chemical, carbon dioxide CO_2

Specific hazards arising from the chemical or mixture

Risk of Fire: Extremely flammable liquid and vapor.
Specific Hazards: Heating raises the pressure and there is danger of explosión.
Vapors may form explosive mixture with air.
Vapors are heavier than air, spread on the ground and form explosive mixture with air. Vapors may travel long distances and reach a source of ignition, ignite, burn back and explode.
Hazardous combustion products: carbon oxides.

Recommendations for fire-fighting personnel

Recommendations for fire-fighting personnel: Wear special protective equipment for fire
In case of fire, wear self-contained breathing apparatus.
To protect people and for cooling of containers in the danger zone, use water jet injection.
Do not allow extinguishing water to reach drains or bodies of water.
Dispose according to regulations in force.
Evacuate the area.

6- ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personnel not trained for emergencies: Evacuate area.
Keep away from and upwind of spill/leak.
Ensure adequate ventilation.
Wear appropriate personal protective equipment.
Do not breathe vapors.
Avoid contact with skin, eyes and clothes.
Keep away from heat sources, hot surfaces, sparks, open flames, and any other source of ignition. No smoking.
Ensure proper grounding of equipment.
Use explosion-protected systems, equipment, extraction systems, devices, etc.
Use only non-sparking tools.

Personnel trained for emergencies: Ensure that procedures and training for emergency decontamination and disposal are available on site.

Environmental precautions

Do not pour product down groundwater, rivers or drains.
If the product contaminates rivers, lakes or sewers, inform the respective authorities.

Methods and materials for containment and cleaning up

Cleaning up process: Use foam to minimize vapor formation.
Stop leak if it is safe to do so.
Contain the spill.
Cleaning up methods - small spill: Absorb with a liquid-binding substance (sand, fossil shell flour, acid binding agent, universal binding agent). Place contaminated material in appropriate covered containers.
Cleaning up methods – Large spill: large spills must be collected mechanically (pumped removal) for disposal.
Place contaminated material in appropriate covered containers.
Dispose of the contaminated material or containers used according to local regulations in force.

MATERIAL SAFETY DATA SHEET
Hidra Crude Oil

7- HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe handling:

Ensure adequate ventilation.
Wear personal protective equipment as required.
Do not breathe vapors.
Avoid contact with skin and clothing.
Take any necessary precautions not to mix with incompatible material.
Ensure adequate process control to avoid discharge of excess waste.
Do not allow contact with soil, surface or ground water.
Ask for special instructions before use.
Keep away from heat sources, hot surfaces, sparks, open flames, and any other source of ignition.
No smoking.
Ensure proper grounding of equipment.
Use explosion-protected systems, equipment, extraction systems, devices, etc.
Use only non-sparking tools.

Indications for General Industrial Hygyene:

Maintain good industrial hygiene.
Wash hands before breaks and immediately after handling the product.
Do not eat, drink and/or smoke during handling.
Keep away from food and drinks.
Keep work clothing separate.
Remove contaminated clothing.
Wash contaminated clothing before wearing them again.

Conditions for safe storage, including any incompatibilities

Storage:

Keep in a dry, cool and well-ventilated place.
Do not store with or near any of the materials listed in Section 10.
Isolated storage facilities to avoid contamination of soil and water in case of spill.
Keep away from heat sources, hot surfaces, sparks, open flames, and any other source of ignition. No smoking.

8- EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure control

Individual protection measures: The personal protection equipment must be chosen according to the concentration and quantity of the hazardous substance at the specific place of work.

Respiratory protection: In case of insufficient ventilation, use appropriate respirators.
Half-mask (EN 140)
Full face mask (EN 136)
A/P filter (EN 143)

The respiratory tract forum class must be adapted to the concentration of harmful substances (gas, vapor, acrid, particulate) that may occur during handling of the product. If concentration exceeds the limits, use an insulated breathing apparatus. (EN 137)

Hand protection: Wear chemical-resistant gloves (EN 374). The gloves must be chosen according to the concentration and quantity of the hazardous substance at the specific place of work.

Eye protection: Wear suitable protection (EN 166)

Body protection: Wear suitable protective clothing.

Thermal hazard protection: Not required in normal use.

Engineering controls: Ensure appropriate ventilation.
Organizational measures to avoid/limit leakage, dispersion and exposure.
Use only in the open air or in well-ventilated places.
Keep under lock and key.
Avoid the accumulation of electrostatic charges.
Ensure proper grounding of equipment.
Use explosion-protected systems, equipment, extraction systems, devices, etc.

Environmental exposure controls: Do not allow contact with soil, surface or gr
Comply with regulations in force for the protection of the environment.

MATERIAL SAFETY DATA SHEET
Hidra Crude Oil

9- PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:	Liquid
Color:	Black
Odor:	Crude Oil Hydrocarbon Odor
pH:	Not applicable
Melting point/freezing point:	< -18°
Boiling point (first drop):	39°C
Flash point:	-7 °C
Density:	0.729 gr/cm3 at 15°C
Viscosity:	0.75 Cst at 20 °C

10- STABILITY AND REACTIVITY

Reactivity: Extremely flammable liquid and vapor
Chemical Stability: The product is stable when stored at normal ambient temperatures.
Possibility of hazardous reactions: Vapors may form explosive mixtures with air.
Conditions to avoid: Keep away from heat sources, hot surfaces, sparks, open flames, and any other source of ignition. No smoking.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: Carbon oxides.

11- Toxicological information

Acute toxicity: **Not classified**

Petroleum, Crude oil (8002-05-9)	
Oral-rat DL50	**>5000 mg/kg**
Dermal rabbit DL50	**>2000 mg/kg**

Corrosion/skin irritation: Not classified.

Eye damage/irritation: Causes severe eye irritation.

Respiratory and/or skin sensitization: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: May cause cancer.

Toxicity for reproduction and development: Not classified.

Specific target organ toxicity, single exposure: May cause drowsiness or dizziness.

Specific target organ toxicity, repeated exposure: Causes damage to organs through prolonged or repeated exposure.

Ingestión hazard: Fatal if swallowed and enter airways.

12- Ecotoxicological information

Toxicity: Harmful to aquatic life with long lasting effects.

Petroleum, Crude oil (8002-05-9)	
CL50 fish 1	**29000-80000 mg/l (Cyprinodon variegatus); 6000-148000 mg/1 (fundulus similis)**
CE50 daphnia 1	**<0.26 mg/1 (exposure time: 48h - species: Daphnia magna (Static)**

Persistence and degradability: No available data.

Bioaccumulative potential: No available data.

Mobility: No available data.

Other harmful effects: No available data.

MATERIAL SAFETY DATA SHEET
Hidra Crude Oil

13- Disposal considerations

Waste treatment methods

Waste from product: Do not allow contact with soil, surface or ground water.
Dispose of empty containers and waste safely.
Recycling is preferable to disposal or incineration.
In case recycling is not feasible, dispose of according to the regulations in force regarding waste disposal.

Contaminated packaging: Do not empty pressurized containers.
After use, do not break or burn.
Contaminated packaging must be treated as the substance.
Disposal must follow regulations in force.

14- Transport information

United Nations No: 3295

United Nations official designation for transport

Official designation for Transport: HYDROCARBONS, LIQUID, N.O.S. (Petroleum, Crude Oil)
United Nations/IATA/IMDG Official designation for Transport: HYDROCARBONS LIQUID N.O.S (Petroleum, Crude oil)

Hazar class for transport

Road Transport
Hazard Identification: 3 Flammable Liquid
Hazard Identification Class: 33
Classification Code: F 1
ADR R1D Labeling: 3- Flammable Liquid

Inland Water Transport (ADN)
(UN) Class 3

Maritime Transport
Class or Division: 3- Flammable Liquid

Air Transport
Class or División: 3- Flammable Liquid

Packaging Group
Packaging Group: I

Environmental Hazard
Environmental Hazard: N

15- Regulatory information

16- Other information (including information related to the preparation and updating of SDSs)

Safety Data Sheet distribution: The information in this document shall be made available to anyone who may come into contact or handle this producto.

Limitation of Liability:
The information contained in this document is based on our present knowledge and it is our intention to describe the product only in relation to health, safety and the environment. Therefore, it should not be construed as a guarantee of any specific property of the product. Consequently, it is the user's sole responsibility to decide whether this information is appropriate and useful.