The Dow Chemical Company

Dow Gas Tanker Safety Rules and Regulations 2019

INDEX

0. Definitions

Throughout this publication the intended meaning of following words are:

"Shall"	Indicates the application of a procedure is mandatory
"Should"	Indicates the application of a procedure is recommended
"May" and **"need not"**	Indicates the application of a procedure is optional
"Will"	Indicates future time. It never indicates any degree of requirement for the application of a procedure

1. Laws and Regulations

With respect to the Vessel(s) supplied by Owner to Charterer under the terms of this Agreement, Owner warrants that each such Vessel is built, equipped, operated and maintained to comply with the following:

1.1 The following IMO code applies to all Vessels:

- International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC)
- Code for Existing Ships Carrying Liquefied Gases in Bulk (1976) (EGC)

Requirements of Charterer, as delineated in these GAS TANKER SAFETY RULES AND REGULATIONS, which exceed the requirements of IMO Code applicable to the Vessel shall be complied with in addition to the Code requirements.

1.2 The laws and regulations of the country of said Vessel's registry; the laws and regulations of each of the countries at which said Vessel calls for loading, discharging or any other operation, and any other rules and regulations which are applicable to Vessel during voyage(s) under this Agreement, provided that such rules and regulations are applicable at the time of "fixture" of this Agreement.

1.3 The regulations of harbour authorities and the safety regulations of the Charterer's designated shore installations in each of the ports at which said Vessels calls for loading, discharging or any other operation.

1.4 In the event that any of the laws and regulations specified in Articles 1.1 to 1.3 above so require, each such Vessel shall have on board valid certificates of compliance and/or any other required certificate, record or document that indicates that transport of the Charterer's product on the Vessel, under the terms of the Agreement, is allowed.

2. Crew

With respect to the Vessel(s) supplied by Owner to Charterer under the terms of this Agreement, Owner warrants that each such vessel is manned and operated to comply with the following:

2.1 The master, officers and crew are aware of and have been properly instructed as to the properties and the hazards of the cargo to be carried and the requirements for safe handling of such cargo, and are instructed in the nature of actions which shall be taken in emergencies concerning cargo involved. They shall do whatever necessary for safe handling of such cargo.

2.2 The master, chief officer and officer on duty are conversant in the English language. The crew members with cargo duties on deck shall be conversant in the English language.

2.3 The master, officers and crew of each such Vessel will comply with such safety and operating procedures for loading, discharging and/or any other operation as may from time to time be issued in writing by Charterer or its representatives, and such persons shall comply with verbal instructions in relation to loading, discharging and/or any other operation given by Charterer or its representatives, provided same is deemed by master safe and in compliance with Owner's instructions and international laws and regulations.

3. Tanks and Cargo Handling Equipment

With respect to the Vessels supplied by Owner to Charterer under the terms of this Agreement, Owner warrants that each such Vessel is built, equipped, operated and maintained to comply with the following:

3.1 Each cargo tank has:

- reliable and functioning level reading instruments.
- level reading instruments and sampling connections which are safely accessible.
- accurate and approved sounding tables for quantity determination on board.
- adequate connections for sampling at bottom, 50% and top of tank levels and at cargo pump discharge side.

Slip tubes are not allowed for level reading, nor as sampling devices. Owner shall provide means to avoid an uncontrolled or unanticipated opening of the Vessel's cargo containment system during cargo loading, carriage and unloading under this charter. Screwed connections and fittings shall be additionally locked to prevent uncontrolled or unanticipated loosening.

3.2 All equipment such as, but not limited to, temperature, pressure, and high level reading instruments, recorders, alarms and shut down systems shall be reliable and functioning.

3.3 For fully pressurized and semi-refrigerated (FP/SR) vessels, no bellows or similar expansion joints shall be allowed in the Vessel's liquid cargo pipelines except with the prior approval of the Charterer. Such approval shall be obtained, in writing, from Charterer at the time that the vessel is nominated or contracted for Charterer's service. Approval shall only be granted when such equipment is installed according to equipment supplier's instructions, is well maintained and in good condition. Such Charterer approval shall not relieve Owner of being solely and full responsible for all failures of such vessel's bellows/expansion joints.

3.3.1 For fully refrigerated (FR) gas tankers, bellows or similar expansion joints shall be of an recognized standard and may only be allowed in the Vessel's liquid cargo lines when such equipment is installed according to equipment supplier's instructions, is well maintained and in good condition. A regular inspection schedule shall be in place. Such schedule shall be submitted to Charterer or his representative for inspection upon request. Charterer approval of said bellows/expansion joints and/or inspection / maintenance schedule shall not relieve Owner of being solely and fully responsible for all failures of such Vessel bellows/expansion joints.

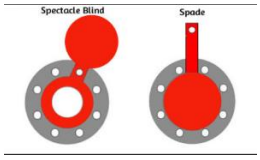
3.4 For the simultaneous carriage of two or more of the liquefied gases: Butane, Butadiene, Butylene, Propane, Propylene, and Ethylene, or mixtures of these gases, or any other product to be transported on the Vessel, following requirements shall apply.

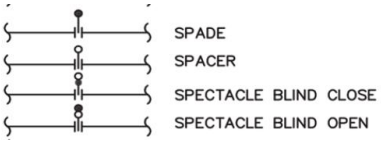
3.4.1 Acceptable separation can be achieved by:

3.4.1.1 removal of pipeline spool piece(s)

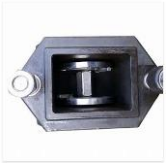
3.4.1.2 installation of spectacle flange(s) and or spade(s)

3.4.1.3 installation of a “double block and bleed”





3.4.1.4 means of a “double valve” installation
3.4.1.5 use of a SEUT Valve (SEUT, Maritime AS, Fredrikstad, NO)



3.4.2 The preferred method for segregating the cargoes shall be achieved by the removal of spool piece(s). In case(s) this cannot be applied, the use of “Seut” valves, spectacle flange(s) or spade(s) is acceptable. If above mentioned methodologies cannot be applied, the use of “double block and bleed” alternatively a “double valve” separation may be acceptable. In case a “double valve” separation is applied, both side valves shall be secured by additional seals to prevent the valves being opened inadvertently.

3.4.2.1 SEUT valve(s) shall only be used with installed closed cover(s).

3.4.2.2 Terneuzen Special Clause: A double valve separation is only acceptable for the simultaneous carriage of the products Propane and Butane for discharge in Terneuzen.

3.4.2.3 The simultaneous carriage of all other products referenced in Attachment 1of this document shall be fully segregated.

3.4.2.4 For simultaneous carriage of Propylene and Ethylene a segregation of both products by removal of spool piece(s) is required.

3.4.3 In "fully segregated" cargo piping and related equipment, the installation of sufficient drains is required.

3.4.4 The separation shall only be deemed intact and acceptable when verified by an independent Surveyor. If load port inspection cannot be arranged, Owners shall submit piping and manifold drawings with actual separation to Charterer.

3.4.5 Surveyor shall document inspection results in writing and submitted to the Charterer prior to ship's arrival in discharge port. The inspection report shall contain details of separation, including, but not limited to, location of separation, method of separation, observations during inspection.

3.4.6 Surveyor shall further determine exact ship's manifold position to connect unloading arm in discharge port, if both products shall be discharged simultaneously.

3.4.7 Combined piping from and to cargo tanks is only acceptable on outlet line(s) of safety valve(s) connected to the vessel's vent mast.

3.5 All Vessel cargo tanks shall be equipped with high level switches to activate a high level alarm, and to initiate an automatic shutdown of the cargo pumps and closure of the cargo tank valves, except those valves used to prevent tank over-pressure.
Pressure relief valves (PSV) discharging liquefied gas from the cargo piping system should discharge back into the cargo tanks and not to atmosphere. PSV's on booster pumps should discharge into the suction side of the pump, and not to atmosphere. If, for technical reasons, this is not possible, a liquid collector for the PSV liquefied gas release is acceptable, if equipped with a switch to activate an automatic shutdown of cargo pumps and closure of all cargo tank valves.

3.6 Manifolds shall be easily safe accessible and their surroundings free of obstacles to allow safe connection of loading arms. Connection flanges outside the regular manifold zone are not allowed for the connection of loading arms.

The manifold position shall be:

- about amidships
- minimum two (2) meters from ship's railing
- approximately one (1) meter above working deck

The size of the liquid flange connection shall be minimum six (6) inches and for the vapour connection, minimum four (4) inches. Any deviations shall be notified in writing to Charterer.

3.7 In case the Vessel's cargo heater is to be used at Charterer's nominated berth, only heat exchanger with a direct heat transfer medium other than water shall be allowed except with the prior approval of the Charterer.

Charter's approval of seawater operated heat exchangers may be granted after Owner provides an explanation of the equipment and a process flow chart to confirm sufficient seawater flow to prevent freezing of the water side of the heat exchanger during normal operation. Such equipment may include, but is not limited to, flow meters, pump flow indication, pressure gauge devices, etc.

Vessel shall perform a pressure test of the seawater systems prior to system operation to verify that the system is leak-free. Test results shall be documented and available upon request.

Such Charterer approval shall not relieve Owner of being solely and fully responsible for the design and operation of such Vessel cargo heaters.

3.8 Suitable flame screens shall be fitted on all Vessel cargo tank vent outlets when required by the IGC Code, Chapter 8 and 17. Vessel cargo tank outlets shall be provided with readily renewable and effective flame protection screens. Due attention shall be paid to the design of such flame protection screens and vent heads so as to avoid the possibility of blockage of these devices by the freezing of cargo vapour or by icing up in adverse weather conditions or by any other means of blockage.

3.9 Vessels permitted to carry clean petroleum products under this Agreement shall be equipped with water sampling points fitted at the lowest part of each tank. If one tank consists of two parts divided by a bulkhead and connected by a bulkhead valve, each part has to be equipped with the above mentioned water sampling point.

3.10 All screwed in fittings within the piping system with a diameter smaller than 25 mm shall be according to the IGC Code, Chapter 5 and have to be additionally secured by means such as Loctite®, tack welding, metal leash/cable.

3.11 All relevant alarms, including, but not limited to gas detection, ESD activation, tank overflow, etc., shall be audible and visible on deck.

3.12 The Loading Master (Person in Charge) of the jetty shall be immediately informed about any gas leakage on board of the Vessel alongside the jetty. Such a leakage shall be deemed as non-compliance as mentioned under Chapter 6 of these GAS TANKER SAFETY RULES AND REGULATIONS.

4. Cargo Transfer Operations

With respect to the Vessels supplied by the Owner to Charterer under this Agreement, Owner warrants that each such Vessel shall comply with the following:

4.1 Venting of any product to the atmosphere is not allowed.
Vessels shall not arrive at the jetty with tanks liquid filled above 98%, without prior approval by the Charterer.
The Loading Master (Person in Charge) and the ship's representative shall develop a discharge plan to address an over-filled tank situation prior to discharge.

4.2 If not advised at the time of conclusion of this Agreement, information about the three previous cargoes as well as about the content of the cargo tanks before loading shall be submitted by the Owner to the Charterer at least 72 hours before the estimated time of arrival at the loading port. If duration of voyage or other circumstances make this impossible, notification as required above shall be given as soon as possible before arrival at loading port. The Charterer shall determine the required cargo tank condition. For details of the required cargo tank condition prior to loading the various gases or liquids, reference is made to the Attachment 1 hereto incorporated, which is to be considered as a guideline only.

4.3 During the visual inspection, as mentioned in Attachment 1, the Vessel's crew shall, on request of Charterer or his representative, give full cooperation in opening tanks and lines, removal of spool pieces, installation of blinds and all activities necessary for a thorough and safe inspection.

4.4 The Master of the Vessel shall advise the valve closure time of the Emergency Shut Down (E.S.D.) system. To assure safe transfer in case of short E.S.D. valve closing time, Charterer reserves the right to limit the product transfer rates in order to keep the pressure, as result of an activated E.S.D. system, below the safety valve settings on board of the Vessel as well as ashore, at no cost to the Charterer.

4.5 Discharge of cargo is only permitted if all cargo protection instruments and/or devices are available and functioning. While the Vessel is alongside Charterer's discharge berth, overriding any instrument and/or device by a key or other means is not permitted, unless agreed to by the Charterer or its representative.
Such agreement by Charterer shall not relieve Owner of being solely and fully responsible for all such overrides.

4.6 Master shall allow the installation of additional shore gas detection devices on board of the Vessel during loading or unloading operations.
The cargo instrumentation of the Vessel shall be continuously monitored by competent members of the Vessel's crew during cargo loading and unloading operations. All alarm warning devices (audible and/or visual) for gas detection, as well as for all other purposes, shall be effective to ensure immediate response by the Vessel's officers and crew.

4.7 For discharging operations the Vessel shall provide a means of activating the Vessel's E.S.D. system from a place located on the dock, which may be activated by the Charterer's representative in the event of an emergency.

4.8 Maintenance activities performed on board the Vessel while at Charterer's dock facilities shall only be done with prior consultation and permission of the Loading Master.

5. Inspection on Board of Vessels

With respect to the Vessels supplied by Owner to Charterer under the terms of the Agreement, Owner warrants that each such Vessel has a current Chemical Distribution Institute- Marine (CDI-M) inspection and is operated and instructed to comply with the following:

5.1 Charterer or his designated representative shall have the right to board and inspect Vessels supplied by Owner under the terms of this Agreement, both before, during and after loading/unloading or transferring of cargo or any other operation in port. Charterer shall not be obliged to inspect the Vessel.
Acceptance of Vessel by Charterer or its representative does not relieve Owner or master of any of their obligations or responsibilities under the Agreement.

5.2 Upon request of the Charterer or its representative, the master of the Vessel shall allow for inspection and testing of all equipment such as, but not limited to:

- Cargo handling equipment such as pumps, valves, compressors, temperature and pressure indicators, and related equipment
- Cargo safety equipment such as E.S.D., gas detection, firefighting equipment etc. Master and crew shall give full cooperation for these tests

Cargo tanks, pumps and re-liquefaction equipment shall be easily accessible for visual inspection.

5.3 All activities such as, but not limited to, sampling, gauging etc. and inspections of Charterer or his representative on board the Vessel shall be carried out in presence of the master of the Vessel or his authorised representative.

5.4 The master of the Vessel shall provide a copy of the Vessel's emergency procedures to the Charterer's representative upon request.

5.5 The master of the Vessel shall inform the Charterer's representative of any unusual circumstances on board the Vessel which may affect the cargo operation.

6. Non-compliance

6.1 Charterer have the right to refuse to begin cargo operations, or to discontinue cargo operations and require the Vessel to leave the berth without any liability whatsoever towards Owner if Vessel, master, crew or his agents do not fulfil articles 1.1, 1.2 and 1.4 herein.
Charterer shall have the option to re-berth the Vessel upon correction of non-compliance items.

6.2 Charterer have the right to refuse to begin cargo operations, or to discontinue cargo operations until such time that all areas of non-compliance with any other of the articles herein have been corrected to the reasonable satisfaction of Charterer, at no cost to Charterer.

6.3 Owner shall hold Charterer harmless against all claims of third parties in relation to non-compliance with warranties mentioned under this Agreement. Charterer shall be indemnified by Owner for all damages which may incur directly or indirectly as a result of such non-compliance.

6.4 This article shall not limit Charterer's right to refuse to berth, load or discharge Vessel if Owner does not comply with its other obligations under this Agreement and shall be in addition to any other rights Charterer may have under this Agreement.

7. Presentation

7.1 Explanation of symbols

O2 Content	: The permissible oxygen (O2) content vapour phase in volume percent
Dew point	: The dew point in degrees Celsius
W	: Water wash
V	: Visual inspection
N2	: Nitrogen purge only
N2/I	: Nitrogen or Inert gas purge
L.F.	: Cargo tanks, lines, cooling equipment, etc. shall be Liquid Free
Rest vapour	: Amount of previous cargo permitted in the vapour phase at tank bottom level in volume percent.

Product Synonyms
Products are sometimes known under a different name:

Raffinate 1	: C4 Raffinate 1, Butylene(s)
Raffinate 2	: C4 Raffinate 2
Propylene	: Propene, Methyl-ethylene
Promix	: Refinery Grade Propylene
C4 Crude	: Crude Butadiene

Remarks:

1. Vessels shall arrive with sufficient tank pressure in order to enable vapour sampling.

2. Vessels with refrigerated last cargo shall arrive with tank temperature greater than 0 degrees Celsius if purging is required.

3. Entry into tanks is only allowed when tanks are under breathable air (20.8 percent O2) and TLV (Threshold Limit Value) of tank atmosphere is <50 percent of TLV of last cargo.

4. Loading of Ethylene and Polymer grade Propylene on previous cargo of Propane or C3 mixtures containing unacceptable concentration of C4 or water requires visual inspection and nitrogen purge prior to loading.

5. Loading of Propylene Oxide in tanks which have contained inhibited cargoes such as Butadiene, VCM, etc. shall only be allowed if cargo tanks are absolutely free of inhibitor residue.

This attachment shall be regarded as a minimum guideline only. The final cargo tank conditions prior to loading will be given by the Charterer. Notwithstanding anything else contained herein, Owners remain fully responsible for maintaining the condition of the cargo as it is received on board the Vessel.

7.2 Guidelines for Cargo tanks conditioning prior to loading Liquefied Gases and Propylene Oxide see **Attachment 1**.

Attachment 1

Next cargo	Butane	Butadiene	Raff. 1 (Butylene)	C4 Raff.	Ethylene	Propane	Propylene Polymer Grade	Propylene Chemical Grade	Propylene Refinery Grade	P.O.	V.C.M.	C4 Crude	Ethane
O2 content	<0.5%	<0.2%	<0.3%	<0.3%	<0.3%	<0.5%	<0.3%	<0.3%	<0.3%	<500PPM	<0.1%	<0.2%	< 0.3%
Dew point					<-40 C		<-25 C						< -40 C
Previous Cargo													
Ammonia Rest Vap.	V, N2/I	W, V, N2/I	W, V, N2/I	W, V, N2/I	W, V, N2	W, V, N2/I	W, V, N2	W, V, N2	W, V, N2	NOT PERMITTED	W, V, N2	W, V, N2/I	W, V, N2
Butane Rest Vap.		N2/I <2%	N2/I <5%	L.F.	V, N2	N2/I <5%	V, N2	V, N2	L.F.	V, N2	V, N2	L.F.	V, N2
Butadiene Rest Vap.	L.F.		N2/I <5%	N2/I <25%	V, N2	N2/I <5%	V, N2	V, N2	V, N2	V, N2	V, N2	L.F.	V, N2
Raff. 1 (Butylene) Resp Vap.	L.F.	N2/I <5%		L.F.	V, N2	N2/I <5%	V, N2	V, N2	V, N2	V, N2	V, N2	L.F.	V, N2
C4 Raff. Rest Vap.	L.F.	N2/I <2%	N2/I <25%		V, N2	N2/I <5%	V, N2	V, N2	V, N2	V, N2	V, N2	L.F.	V, N2
Ethylene Rest Vap.	L.F.	N2/I <5%	N2/I <5%	N2/I <5%		N2/I <5%	N2 < 3000 PPM	N2 < 3000 PPM	N2/I <5%	V, N2	N2 < 1000 PPM	N2/I <5%	V, N2
Propane Rest Vap.	L.F.	N2/I <5%	N2/I <5%	N2/I <5%	N2 < 1000 PPM		N2/I <5%	N2/I <5%	L.F.	V, N2	N2 < 1000 PPM	N2/I <5%	N2 < 1000 PPM
Propylene Polymer Grade Rest Vap.	L.F.	N2/I <5%	N2/I <5%	N2/I <5%	N2 < 1000 PPM	N2/I <5%		L.F.	L.F.	V, N2	N2 < 1000 PPM	N2/I <5%	N2 < 1000 PPM
Propylene Chemical Grade Rest Vap.	L.F.	N2/I <5%	N2/I <5%	N2/I <5%	N2 < 1000 PPM	N2/I <5%	N2/I <5%		L.F.	V, N2	N2 < 1000 PPM	N2/I <5%	N2 < 1000 PPM
Propylene Refinary Grade Rest Vap.	L.F.	N2/I <5%	N2/I <5%	N2/I <5%	V, N2	N2/I <5%	N2/I <5%	N2/I <5%		V, N2	N2 < 1000 PPM	N2/I <5%	V, N2
P.O. Rest Vap.	W, V, N2/I	W, V, N2/I	W, V, N2/I	W, V, N2/I	W, V, N2	W, V, N2/I	W, V, N2	W, V, N2	W, V, N2		W, V, N2	W, V, N2/I	W, V, N2
V.C.M. Rest Vap.	V, N2/I	V, N2/I	V, N2/I	V, N2/I	V, N2	V, N2/I	V, N2	V, N2	V, N2	V, N2		V,N2/I	V, N2
Crude C4 Rest Vap.	L.F.	N2/I <5%	N2/I <5%	N2/I <5%	V, N2	N2/I <5%	V, N2	V, N2	V, N2	V, N2	V, N2		V, N2
Ethane Rest Vap.	L.F.	N2 <5%	N2 <5%	N2 <5%	N2 < 1000 PPM	N2 <5%	N2 < 2000 PPM	N2 < 1%	N2 < 2000 PPM	V, N2	N2 < 1000 PPM	N2 <5%	

8. EMERGENCY RESPONSE MEMORANDUM DOW MARINE CHARTERING

1. Purpose

This Chapter aims to provide assistance to vessel owner and operators in responding to Marine distribution incidents.

2. Policy

If requested, Dow will provide assistance during a maritime incident until there is no longer significant risk to life, property and the environment, provided that:

- Dow produced, transported, and/or traded the chemical involved and;
- Dow caused the chemical to be transported; and;
- Dow assistance is requested by an appropriate government agency and/or a chemical industry mutual aid organization; - or –
- Assistance by Dow is the only feasible means to eliminate the risk.

3. Assistance vs. Liability

Maritime Law and Dow Charter Party terms clearly place the responsibility for nautical function of a Third Party Vessel (i.e. operation, safety, management and navigation of such vessel) upon the Owner of the Third Party Vessel and such Vessel's Master, who therefore carry the sole legal responsibility for incidents and associated emergency response. Any Dow assistance is given because the public has a right to expect that those who produce chemicals or cause them to be transported should be able to provide expertise in the handling, toxicology, fire and explosion hazards of those chemicals.

4. Assistance vs. Authority

In most incidents, local or international laws designate a government agency as being officially in charge of a response, with the Responsible Party taking the lead in mitigation. Dow intends to render necessary assistance and resources from a position as product hazard and handling experts, and does not intend to take charge of the incident.

5. Incident Report

In the event of any incident involving Dow products or shipment, the vessel owner must immediately report the incident to appropriate Dow personnel, whether assistance is required or not. Dow employees learning of or observing incidents should act similarly. The vessel owner must notify both the shipping and receiving location of any affected products, as well as the Dow Emergency Center nearest to the incident (as described later in this document)

Continued on next page

EMERGENCY RESPONSE MEMORANDUM, Cont.

6. Threshold for incident reporting

The following are examples of incidents that must be reported to Dow:

- Any incident related to actual or potential exposure or release of a Dow cargo.
- Any release of a Dow cargo into an unintended compartment on a vessel, including a release into a void space, ballast tank or an adjacent cargo tank.
- Any grounding, allision or collision, structural damage, or loss of propulsion/steering involving the vessel.
- Any significant injury or fatality onboard the vessel, whether related to actual or potential exposure/release of a Dow cargo or not; and/or
- Any incident that occurs at a Dow site, regardless whether a Dow cargo is directly involved.

7. Information Needed

In the event of an incident, the information provided is important in evaluating the situation and providing an appropriate response. Basic information that should be provided to Dow includes:

- Caller's name; phone number; location;
- Vessel name & name of Owner or operator,
- Type of casualty, time and location of the incident,
- Latitude and longitude, and distance from nearest land;
- Weather conditions;
- Extent of damage to vessel, personnel, and equipment;
- Product(s) involved and an estimate of cargo loss or damage, along with other cargo identification information;
- Name of shipping and receiving locations;
- Actions Vessel and Owner are taking to protect personnel, Vessel and cargo, the public, and the environment;
- If Vessel is in suitable condition to continue, any steps being taken (i.e. emergency lightering, re-routing to new destination, jettison of cargo, etc.);
- Information regarding press or agency involvement;
- Any assistance Owner is requesting from Dow Chemical.

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EMERGENCY RESPONSE MEMORANDUM, Cont.

8. Alerting Dow Response System

As soon as possible after learning of an incident, Dow should be notified. The Owner/operator of the Vessel should contact the Dow Emergency Center nearest to the vessel, as well as both the shipping and receiving sites of any products affected (see table below):

If-incident occurs in:	**Then notify Dow contacts in both shipping and receiving areas, as shown below:**
At or near a Dow facility	Notify responsible person on shore Example: Facility Person-in-Charge
Dow European Area Includes: Europe, Mediterranean Middle East Africa	Contact: Terneuzen Emergency Response Center Phone +31-115-694982
Dow North America Includes: Canada, United States, Mexico	Contact: Dow, Emergency Services and Security Freeport, Texas (USA) Phone: +1-979-238-2112
Dow Latin America Includes: Brazil, Argentina, Chile Regions Caribbean, Colombia, Venezuela, Central America	Contact: Dow, Emergency Services and Security Freeport, Texas (USA) Phone: +1-979-238-2112 Industrial Security will collect information and contact an area representative for Latin America.
Dow Pacific Area Includes: North & South Pacific	Contact: Alert-SGS Phone: +800-2537-8747 Back-up/Alternate Contact Contact: Dow, Emergency Services and Security Freeport, Texas (USA) Phone: +1-979-238-2112

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9. Alerting Chemical Trade Response System

Various chemical manufacturing organizations exist to support the chemical industry in the event of an incident by providing technical product information and assisting in communications. As soon as possible after an incident, a vessel owner should consider contacting the nearest organization to report the incident.

If:	Then contact:
In U.S.A. waters	U.S.A. CHEMTREC (800) 424-9300 *International/Collect* +1-703-527-3887
In Canadian waters	Canada CANUTEC +1-613-996-6666
In Mexican waters	Mexico SETIQ +91 800-00-214

10. Degree of Dow Assistance

In the event of a marine emergency, it is Dow Chemical's decision whether or not to offer assistance to the vessel and the extent of such assistance. Normally, assistance, if given, may consist of advice on the characteristics of the Dow products involved, safe handling techniques, and environmental considerations. In most cases, providing this information to the carrier's on-site management will be enough to alleviate the emergency.

For a marine incident that may pose an imminent threat to life, property, the environment, or that may otherwise cause a significant public concern, Dow may elect to provide on-site assistance. Any on-site assistance provided is likely to be primarily concerned with the prevention, containment, and clean-up of a petrochemical substance(s) spill into the waters. Should on-site assistance be envisaged, prompt notice will be given to the Owner and he will be informed that the assistance is being taken on his behalf and at his expense.

11. Information provided by the owner

The information given to Dow should initially be provided verbally in order to allow a rapid response by Vessel personnel, the owner, and Dow. After the situation is stabilized, the owner should forward a written incident report to Dow by e-mail and/or fax.

12. Links with other Plans

The Marine Emergency Response plans are a part of Dow's Distribution Emergency Response Plans, and a subset of the major manufacturing sites' emergency plans and/or country plans.

Appendix 1

DOCUMENT CHANGE HISTORY

Title: *Dow Gas Tanker Safety Rules And Regulations 2019*

Document Owner: *Dow Logistics Technology Center*

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DOCUMENT CHANGE HISTORY		
PAGE/LINE	**CHANGE**	**DATE**
All Pages	JM. Faseler: WebMOC GSC2011020001	May, 11th, 2001
Section 7	P. Goossen: Added product synonyms and revised matrix in Section 7	Oct 16th, 2016
Page 7 and Section 7	H.J. Dunemann: 1. Reviewed Section 3.4 2. Ethane and Butane as last cargo added in Section 7	Apr 18th, 2018
All Pages	H.J. Dunemann and DLTC Team: Technical requirements for LPG carrier reviewed. WebMOC GSC2019060003	

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