

**PROCESS CONTROL PROCEDURE FOR
COLLECTION, HOLDING AND TRANSFER (CHT) SYSTEM
CERTIFICATION (TANKS AND ASSOCIATED PIPING)**

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SECTION 1 IDENTIFICATION

1.1 SCOPE

- 1.1.1 This standard procedure has been developed to state requirements for certification and inspection of Collection, Transfer and Holding (CHT) tanks, associated piping and adjacent spaces requiring "Certification to ENTER WITH RESTRICTIONS, SAFE FOR WORKERS and/or SAFE FOR HOT WORK.

NOTE 1:

Process Control Procedures (PCPs) are SupShip GC approved documents for contractor execution of a specific repair item. PCPs are to be followed as written. However there may be circumstances where the PCP needs to be revised to meet field conditions. Revisions that in the opinion of the SupShip GC Onsite Rep and the SupShip GC signatory are minor and do not degrade the overall performance of the process, require contract modifications, or significantly alter the scope of the work may be made onsite by the SupShip GC onsite Rep with concurrence of of SupShip GC PCP signatory. Changes will be noted with name, time, date and signature of SupShip GC 200/Onsite Rep making the change on the KTR's copy of the PCP as pen-and-ink changes. The KTR will submit a formal revision within 3 working days of the pen-and-ink change. The PCP revision policy is stated in SupShip GC SOP-225-002. (see note 2 below for revision instructions).

NOTE 2:

PCP Revisions: Revisions shall be submitted under a new coversheet and include only those PCP pages changed or added by the revision on the Revision Sheet (Record of Page Changes). Each PCP revision shall also provide a new Direct Knowledge Attendance Form (Appendix 1).

Record of Page Changes: This sheet will be placed after the revised PCP coversheet and shall document each new or changed page from the approved PCP. The sheet will list each affected page, a summary of the changes, and reason for the change. Subsequent revisions will be recorded on the same Record of Page Changes sheet using the next revision letter/number and submitted under a new coversheet. This practice will reduce the size of PCP revision documentation while ensuring PCP objective quality evidence (OQE) remains intact across PCPrevisions.

Change Pages: A PCP revision submittal need provide only those pages changed or added by the revision. The revision letter shall be entered on all changed pages of the PCP. New pages shall be labeled with the number of the preceding page and consecutively starting with "A" (e.g., Page 5A of 15).

Pen and ink changes shall be accomplished by drawing a single line through the portion to be changed, and entering the necessary change adjacent to that portion. The person making the change will initial, date, and list the revision number. Pen and ink changes will be permanent on the original OQE. The change/correction and the pen and ink change(s) shall be verified by the designated SupShip GC Representative (SBS). This verification will be recorded on the Record of Page Changes sheet.

Pen and ink changes for Enclosure 2 and Enclosure 3 DO NOT require a Formal PCP Revision.

NOTE 3:

Any NONCONFORMING conditions found during the execution of this EPCP/PCP (whichever applies) will require immediate documentation by those involved in performing or overseeing the work. The NONCONFORMING condition must be immediately submitted to the Local Technical Authority (SupShip GC Chief Engineer) or their signatories (SupShip GC Deputy Chief Engineers) for review and further direction before continuation of work affected by the NONCONFORMING condition.

1.2 PURPOSE

- 1.2.1 The purpose of this procedure is to provide a step-by-step process for the certification of CHT tanks, associated piping and adjacent spaces.
- 1.2.2 CHT tanks and associated piping are subject to build up of scale, solid waste, and high concentration of hydrogen sulfide, methane gas and are considered Immediately Dangerous to Life or Health (IDLH) spaces.
- 1.2.3 The areas listed in Appendix 1 will be cleaned, gas freed and certified as, "ENTER WITH RESTRICTIONS, SAFE FOR WORKERS/SAFE FOR HOT WORK", in accordance with References (a) through (f), and (Enclosure 1).

1.3 REFERENCES

- a) NAVSEA Standard Items
- b) Occupational Safety and Health Administration (OSHA) 29 CFR part 1910.134 Respiratory Protection
- c) Occupational Safety and Health Administration (OSHA) 29 CFR Part 1915 Shipyard Employment
- d) NAVSEA S9086-T8-STM-010/CH-593 Rev 5, Pollution Control
- e) National Fire Protection Association (NFPA) Standard 312, Standard for Fire Protection of Vessels during Construction, Repair, and Lay-Up
- f) NSTM 593-4.3.4.1.1b Pollution Control - Carbon Dioxide check

1.4 ENCLOSURES

1. Work Item 991-11-004
2. MSDS-LA CHEMCHLOR (Sodium Hypochlorite 12.5% solution)

SECTION 2 PERSONNEL QUALIFICATION

2.1 QUALIFICATION REQUIREMENTS

- 2.1.1 All personnel required to use respiratory equipment shall be trained annually in the actual use of the respirator equipment, including operation of all controls, and breathing under pressure-demand conditions. Training shall be documented.
- 2.1.2 All "Competent Persons" and tank cleaning personnel shall be trained annually on safety practices to include a discussion of safety information

found in 009-07 (Fire Prevention and Housekeeping; accomplish), **Reference (a)** and Subparts A, B, and I of **Reference (b)**.

2.2 DIRECT KNOWLEDGE

- 2.2.1 A briefing will be conducted prior to beginning work to ensure personnel have direct knowledge of the requirements of this procedure and the safety requirements of the job, including an understanding of the MSDS for LA CHEMCHLOR (Sodium Hypochlorite 12.5% solution) (**Enclosure 2**). Accomplishment of the briefing will be documented on **Appendix 2**.
- 2.2.2 Annual training required in **Section 2.1** cannot be substituted for the safety briefing.
- 2.2.3 Method utilized to ensure complete knowledge of the job:
 - 2.2.3.1 All personnel shall have a thorough knowledge of this procedure and complete understanding of the system being worked, prior to starting work.
 - 2.2.3.2 All personnel shall have the ability to foresee and resolve potential problem areas, and to complete the job in a timely yet efficient manner.

SECTION 3 PROCESS DESCRIPTION

3.1 MATERIAL/EQUIPMENT

- 3.1.1 Vacuum Truck, Holding Tank or Pier Riser
- 3.1.2 Pneumatic Operated Pump
- 3.1.3 Vacuum Hose
- 3.1.4 Air Hose
- 3.1.5 High Pressure Hose
- 3.1.6 Liquid LA CHEMCHLOR (Sodium Hypochlorite 12.5% solution)

3.2 SAFETY EQUIPMENT

- 3.2.1 Gas Meter (Oxygen, Hydrogen Sulfide, LEL)
- 3.2.2 NIOSH Approved atmosphere-supplying respirators and equipment IAW 009-88 (CHT and MOGAS Tanks, Spaces and Piping), **Reference (a)**.
- 3.2.3 Rubber Boots, Rain Suits, Gloves, Face Shield and Safety Glasses (**Tyvek coveralls are not permitted**)
- 3.2.4 Breathing Air Hoses
- 3.2.5 Explosion Proof Blower with Non-Ferrous Blower Blades
- 3.2.6 Ventilation Ducting (Non-Sparking)
- 3.2.7 Explosion Proof Lights

3.2.8 Non-Sparking Tools, All tools utilized to open tanks or associated piping will be furnished by personnel performing this process control procedure **(Ship's force's tools are not to be utilized)**

3.2.9 Grounding Straps

3.2.10 Harness and Lifeline or Lifeline and Rescue Tripod

3.2.11 Communication Devices

3.3 SAFETY PRECAUTIONS

3.3.1 Designate the Emergency Rescue Team (ERT) in writing per paragraph 3.1.5.3 of 009-07 (Fire Prevention and Housekeeping; accomplish), **Reference (a)**. Designation shall be made on **Appendix 3**.

3.3.2 All hot work, welding, burning and grinding shall be secured in the space where gas free operation is being accomplished.

3.3.3 Signs

3.3.3.1 The following signs shall be posted during the gas free procedure:

English



Spanish



3.3.3.2 Until a gas free certificate is obtained by a Certified Marine Chemist stating that the CHT tanks and associated piping are "Safe for Workers", and "Safe for Hot Work", the following sign shall be posted:

English



Spanish



3.3.4 Space ventilation

- 3.3.4.1 Install exhaust ventilation; ground the equipment to prevent sparking from static electricity and take suction from the area of tanks and associated piping.
- 3.3.4.2 Exhaust the ducting to the weather deck in an area where the discharge will not enter the ship's ventilation system.
- 3.3.4.3 Engage the ventilation equipment before opening the CHT system and during the cleaning operation. The air movers shall be shut down 15 minutes prior to atmospheric test readings taken by a certified Marine chemist.

3.3.5 Immediately Dangerous to Life or Health (IDLH)

- 3.3.5.1 Sewage and waste water system holding tanks (CHT) and associated piping systems (drain and transfer pipes) are considered Immediately Dangerous to Life or Health (IDLH) spaces.
- 3.3.5.2 Spaces, which are considered to contain IDLH atmospheres, shall never be entered except for emergency rescue or for short duration for installation of ventilation equipment in accordance with **References (b), (c) and (f)**.
- 3.3.5.3 An adequate and attended lifeline shall be utilized for each employee who must enter the IDLH or potentially IDLH atmosphere.
- 3.3.5.4 Employees entering spaces, which are considered to contain IDLH atmospheres, shall wear a safety harness with an adequate attended lifeline. The stand-by person positioned outside the IDLH atmosphere shall tend the lifeline.
- 3.3.5.5 An observer, whose only duty shall consist of oversight of the work area and spreading the alarm in the event of a casualty, shall be stationed at the access to the work site. The observer must be able to have visual contact or communication with persons in the space at all times.

3.3.5.6 The observer shall be provided with and trained to use the same personal protective equipment (PPE) required for personnel accomplishing the work. The observer shall be knowledgeable in the work process being accomplished.

3.3.6 Respirator requirements

3.3.6.1 Provide a full face piece, pressure demand SCBA certified by NIOSH for a minimum service life of 30 minutes, or a combination, full face piece, pressure demand SAR with an auxiliary self-contained air supply. The auxiliary self-contained air supply shall be a minimum of 15 minutes.

3.3.6.2 Employees entering or working CHT tanks, associated piping and spaces, which are considered to contain IDLH atmospheres, shall wear positive pressure NIOSH approved breathing apparatus. Atmosphere supplying respirators may be either a combination, full face piece, pressure demand, supplied-air respirator (SAR), or a full face piece, pressure demand, self-contained breathing apparatus (SCBA).

3.3.6.3 Air breathing pump for respirators shall be located on a weather deck and at least twenty feet from any potentially hazardous intake source. Caution shall be taken to insure that no engine exhaust is directly upwind of air pump intake.

3.3.7 Entering and exiting confined spaces

3.3.7.1 Qualified/trained personnel authorized to enter confined spaces shall be assigned in teams. An observer and a rescue team shall be designated.

3.3.7.2 A list of qualified rescue personnel and the documentation of their training shall be maintained by contractor performing the work.

3.3.7.3 An observer, whose only duty shall consist of oversight of the work area and spreading the alarm in the event of a casualty, shall be stationed at the access to the work site. The observer must be able to have visual contact or communication with persons in the space at all times.

3.3.7.4 The observer shall be provided with and trained to use the same personal protective equipment (PPE) required for personnel accomplishing the work. The observer shall be knowledgeable in the work process being accomplished.

3.3.7.5 The observer shall establish communication between the ships designated 24-hour manned casualty control location, e.g. Quarterdeck, DCC, CCS, and the observer's location to facilitate notification of the ship in the event of a casualty.

- 3.3.7.6 This communication may be in the form of two-way radios, temporary portable wired alarm system, or other effective devices. The communication devices shall be tested every thirty minutes, as a minimum, to ensure the observer's ability to sound the alarm in the event of a casualty.
 - 3.3.7.7 The rescue team must be able to communicate with those working in the confined space and with the observer
 - 3.3.7.8 For entry in an emergency the rescue person(s) must use a Self-Contained Breathing Apparatus (SCBA) operated in pressure demand mode with a 30-minute air supply minimum.
 - 3.3.7.9 Appropriate retrieval equipment shall be readily available for removing personnel who enter the IDLH atmospheres where such equipment would contribute to the rescue of the personnel and would not increase the overall risk resulting from entry.
 - 3.3.7.10 A rescue test shall be performed to insure that rescue equipment will fit through the confined space entryway, to test communications, and to increase awareness of the difficulty of rescue operations.
 - 3.3.7.11 An adequate and attended lifeline shall be utilized for each employee who must enter the IDLH or potentially IDLH atmosphere.
 - 3.3.7.12 To permit quick entry and exit from any space during emergencies, areas around the space openings and emergency routes shall be kept clear of obstructions.
- 3.3.8 Open ended and disconnected hoses shall be capped on board or on the pier when not in use. Hoses shall be red tagged if capping is not applicable as per 009-24 (Isolation, Blanking, and Tagging Requirements; accomplish), **Reference (a)**.

3.4 PREPARATION

- 3.4.1 Prime Contractor shall provide notification as follows:
 - 3.4.1.1 Deliver notification to ship's CO and the SUPERVISOR (SupShip GC) at least four hours prior to the planned opening of CHT tanks or associated piping. Notification shall be made utilizing **Appendix 1**.
 - 3.4.1.2 If opening is planned over a weekend or Monday following that weekend, deliver notification to ship's CO and the SUPERVISOR (SupShip GC) that an opening of CHT tanks or associated piping will occur. Notification will be made no later than 0900 on the Friday immediately preceding that weekend. Notification shall be made utilizing **Appendix 1**.

- 3.4.1.3 If opening is planned on a federal holiday or on the day following the federal holiday, deliver notification to ship's CO and the SUPERVISOR (SupShip GC) that an opening of CHT tanks or associated piping will occur. Notification will be made no later than 0900 of the last working day preceding the federal holiday. Notification shall be made utilizing **Appendix 1**.
- 3.4.1.4 Notify the Commanding Officer, or his designated representative in writing of all valves, pumps and components in the CHT system that require "Tag-Out" prior to commencement of work on the CHT system. Accomplish the requirements of 009-24 (Isolation, Blanking and Tagging Requirements; accomplish), **Reference (a)**.
- 3.4.2 Provide the designated emergency rescue team, designated in **Appendix 3**, written notification at least four hours prior to the planned opening of the CHT system or associated piping. Notification shall be made on **Appendix 3**.

3.5 START OF PROCEDURE

(V)(G) CHECKPOINT

- 3.5.1 Start of this procedure is a checkpoint IAW 009-09 (Process Control Procedure (PCP); provide and accomplish), **Reference (a)**.
- 3.5.2 Prior to entering or working on CHT tanks and associated piping, inspect safety equipment and review safety requirements. All tools utilized to open tanks or associated piping will be furnished by personnel performing this process control procedure. **(Ship's force's tools are not to be utilized)**.
- 3.5.3 Provide certification for Grade D Breathing Air for equipment listed in Para. 3.2.2 of this PCP.

3.6 CERTIFICATION OF CHT TANKS AND ASSOCIATED PIPING PRIOR TO OPENING/ENTERING

- 3.6.1 A National Fire Protection Association (NFPA) Certified Marine Chemist shall be present during the opening of CHT tanks and associated piping.
- 3.6.2 The Marine Chemist shall personally certify all spaces for initial entry.
- 3.6.3 Accomplish the requirements of **Reference (b)** for CHT tanks and associated piping that have the potential to become "Immediately Dangerous to Life or Health" (IDLH).
- 3.6.4 The "Marine Chemist" and personnel involved during initial opening of CHT tanks and associated piping, will wear a full-face, pressure demand, supplied-air respirator (SAR) (in line respirator).

3.7 SANITARY PRECAUTIONS

- 3.7.1 Prior to entering CHT tanks or opening associated piping, personnel must wear rubber suits, **(Tyvek coveralls are not permitted)** rubber boots, rubber gloves, face shield and safety glasses. The "Marine Chemist" and

personnel involved during initial opening and entry of CHT tanks and associated piping, will wear a full-face, pressure demand, supplied-air respirator (SAR) (in line respirator). These steps are to minimize and prevent being contaminated with CHT waste and to avoid absorbing any hydrogen sulfide, if present, through the skin.

- 3.7.2 Eating, drinking, chewing of gum or tobacco is not permitted by personnel working in CHT tanks or on associated piping.
- 3.7.3 Personnel working in CHT tanks or on associated piping shall not smoke, eat or drink prior to a thorough washing with hot water and soap of hands, lower arms and face; in that order.
- 3.7.4 Personnel engaged in the cleaning of CHT tanks or associated piping will remove all contaminated personal protective equipment before leaving the work area.

3.8 SAFETY PRECAUTIONS FOR CLEANING CHT TANKS AND ASSOCIATED PIPING

- 3.8.1 A Certified Marine Chemist will certify the opened tank and associated piping as "Safe for Workers".
 - 3.8.1.1 Competent person on the job with an oxygen, combustible gas, and hydrogen sulfide instrument shall test the tank and associated piping, during the entire work process.
 - 3.8.1.2 Prior to entering tank or opening associated piping, personnel will be suited with personal protective equipment.
 - 3.8.1.3 This will include rubber suits, rubber gloves, rubber boots and Full-Face Supplied Air Respirators (SAR's) airline respirators.
 - 3.8.1.4 Prior to opening associated piping a catch basin will be placed under the proposed opening.
- 3.8.2 Once the tank or associated piping is open and the marine chemist authorizes the entry to the cleaning personnel, the ventilation (exhaust) hose will be installed inside the tank, or in the vicinity alongside and close to the opening of associated piping.
- 3.8.3 The vacuum hose will be set-up at the lowest point of suction in the CHT tank.
- 3.8.4 Upon entering the tank or opening associated piping, the tank or piping will be sprayed with a solution of 10% LA CHEMCHLOR (Sodium Hypochlorite 12.5% solution) to disinfect the area prior to start of cleaning evolution.
- 3.8.5 In case of spills, suspend cleaning operations; clean up the area, and disinfect using a 10% solution of LA CHEMCHLOR (Sodium Hypochlorite 12.5% solution).

3.9 CLEANING OPERATION OF CHT TANKS

- 3.9.1 An explosion-proof droplight will be installed in the tank, in such a way as to ensure sufficient lighting throughout the tank and the area around associated piping.
- 3.9.2 After the tank and opened associated piping is sprayed and disinfected with a solution of 10% LA CHEMCHLOR (Sodium Hypochlorite 12.5% solution), and tested "Safe for Workers", cleaning of the tank and associated piping will start.
- 3.9.3 Cleaning evolution will start from the highest and furthest most point from the low areas of tank or the associated piping, ensuring that all areas are cleaned.
 - 3.9.3.1 All liquids will be disposed of via vacuum hose and diaphragm pump electrically grounded into vacuum truck or holding tank on the pier.
 - 3.9.3.2 Heavy solids will be removed physically.

NOTE 4:

All waste generated during the cleaning operation, will be disposed of in accordance with local, state, and federal regulations.

3.10 ACCEPTANCE CRITERIA

- 3.10.1 CHT tanks and associated piping will be free of sediment, solid waste and residue and certified, "ENTER WITH RESTRICTIONS, SAFE FOR WORKERS and/or SAFE FOR HOT WORK" by a NFPA Certified Marine Chemist.

3.11 INSPECTION AND DOCUMENTATION FORMS

- 3.11.1 Checkpoint Notification/Inspection Documentation Form (Contractor Provided).
- 3.11.2 Check-Off Sheet For Certifying CHT Tanks or Associated Piping (**Appendix 4**).

3.12 CONTROL OF THE PROCEDURE

- 3.12.1 A copy of the approved procedure shall be at the work site in the possession of the project manager, foreman and/or lead man, during the performance of the work.

3.13 OBJECTIVE QUALITY EVIDENCE

- 3.13.1 Objective Quality Evidence to include a copy of **Appendix 1, 2 and 3** and a copy each of the following to be maintained on file as required by 009-04 (Quality Management System; provide), **Reference (a)**:
 - 3.13.1.1 This Process Control Procedure
 - 3.13.1.2 PCP Direct Knowledge Attendance Form
 - 3.13.1.3 Inspection and Test Records (Provided by Prime Contractor)

3.13.1.4 Hazardous Waste Manifest (Required when transported off site)

SECTION 4 HAZARDOUS MATERIALS

4.1 HAZARDOUS MATERIALS

4.1.1 Hazardous material (HAZMAT):

4.1.1.1 LA CHEMCHLOR (Sodium Hypochlorite 12.5% solution) Detergent

4.1.2 Hazardous waste:

4.1.2.1 Sediment

4.1.2.2 Solid Waste

4.1.2.3 Residue

4.1.2.4 Effluent (Expended LA CHEMCHLOR - Sodium Hypochlorite 12.5% solution)

4.1.2.5 Effluent (Expended Detergent)

4.1.3 Hazardous waste disposal

4.1.3.1 All liquid waste generated by cleaning or disinfecting the system will be pumped into applicable holding piping or sewage system and disposed IAW local, state and federal regulations.

4.1.3.2 All solid waste generated will be disposed IAW local, state and federal regulations.

CHT CLEANING AND REPAIR FORM

| | | |
|--|--|------------------|
| Date: | To: Commanding Officer USS SOMERSET (LPD-25) | |
| Dear Captain: | | CHT Tank Opening |
| | X | CHT Pipe Opening |
| Compt #: 7-25-01-E | Date/Time to Be Opened: | |
| <p>The above listed CHT system(s) will be opened for cleanliness and repairs. All requirements of NAVSEA Standard Item 009-88 will be met. In order to minimize delays, Cal Marine requests that prior to opening CHT system(s) (piping/tank), ship's force accomplish the following:</p> <ol style="list-style-type: none"> 1. Flush and drain the CHT system IAW Para 593-4.3.4.1 step a 1 thru 8 of NSTM S9086-T8-STM-010/CH-593 Rev 5, Pollution Control, prior to opening. 2. Tag out or isolate affected piping, valves, pumps and motors associated with affected system. Cal Marine personnel will schedule sanitizing (addition of LA CHEMCHLOR - Sodium Hypochlorite 12.5% solution) with ship's force. If you have any questions, or if we can be of any further assistance, please feel free to contact Cal Marine at telephone number 619-231-8788 <p>COMPANY: Cal Marine intends to follow the requirements of paragraph 2.3. "Areas listed in work item will be cleaned, gas freed and certified as, "ENTER WITH RESTRICTIONS, SAFE FOR WORKERS/SAFE FOR HOT WORK"", in accordance with references listed in Section 3.</p> | | |
| Delivered by (print name): | Title: | |
| Signature: | Date/Time: | |
| Received by (print name): | Rank: | |
| Signature: | Date/Time: | |
| Tag out to be accomplished by: | | |
| Signature: | Date/Time: | |

[Copy to: Ship's CO, The SUPERVISOR (SupShip GC), Trade, QA Files]

APPENDIX 1

PCP DIRECT KNOWLEDGE ATTENDANCE FORM

| | | | |
|---|------|-------|---------------------------|
| Description Of Briefing: CHT Safety Briefing | | Date: | PCP No.: CMC-100147-14 |
| Ship/Hull: USS SOMERSET (LPD-25) | Job# | | Item# 991-11-004 |

Instructors: Please retain with completed PCP and deliver a copy to Training Center for records upon completion of training.

| No. | Attendee Name (Print or type) | Dept # | Badge # | Attendee Signature/Excused Absence (Ink only) |
|-----|----------------------------------|--------|---------|--|
| 1. | | | | |
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|---------------------------------------|-----------------------|
| Print Instructor Name (Company Name): | Instructor Signature: |
|---------------------------------------|-----------------------|

APPENDIX 2

EMERGENCY RESCUE TEAM (ERT)
DESIGNATION FORM

Location of Ship NBSD

During this availability, per paragraph 10.5, an emergency rescue team will be designated.

Per Standard Item 009-07(Confined Space Entry, Certification, Fire Prevention and Housekeeping; accomplish) paragraph 3.1.5.3, the emergency rescue team responsibilities will normally be the Shipyard, Prime contractor or Sub contractor in a contractor facility or the Navy at a Naval Facility.

The following designated entity will assume the responsibility as emergency rescue team.

California Marine Cleaning

During availabilities where the ship is not physically located at BAE, NASSCO, or CMSD, ship's force personnel may assume emergency rescue team responsibilities with the agreement of the Commanding Officer.

NOTE: Ship's force personnel may assume this responsibility to reduce costs and provide training to the crew. Assumption of this responsibility may be on a one time only basis or for the duration of the current availability and requires a signature of the ship's Commanding Officer (CO).

Date of this Availability are From N/A To N/A

One time only N/A
(CO's Initial)

Duration of current availability: N/A
(CO's Initial)

CO's Signature N/A

During availabilities where the ship is physically located at a naval facility in the Navy Region Southwest, San Diego Federal Fire Department (FEDFIRE) will respond to Navy personnel and contractors working aboard Naval vessels.

In order to facilitate this process, the following information is required to be provided to Federal Dispatch Office (FDO), via telephone notification, 24 hours prior to the start of work and when work is completed at (619)524-2030 or (619) 524-6999 for high risk evolutions.

- 1.) Place of Performance: Naval Facility where ship is located. NBSD
- 2.) Physical Location of Performance:
Ship name: USS SOMERSET
Hull number: LPD-25
Pier: 4
- 3.) Space Number(s) for location of work aboard ship: _____
- 4.) Period of Performance: Dates of high risk evolution. TBD
- 5.) Name of organization performing work: CAL MARINE CLEANING, INC.
POC: BRET BURCH
Phone Number: 619-231-8788
- 6.) Nature of work being performed: Certify #1A Sewage Ejector Pump Gas Free
- 7.) Identification of Possible Hazards FED FIRE may encounter during rescue aboard ship to include:
 - a. Presence and quantity of toxic and/or hazardous substances in and adjacent to work space.
TBD
 - b. Space numbers for locations known to contain oxygen deficient/enriched atmospheres.
TBD
 - c. Space numbers for locations known to contain atmospheres equal to or greater than 10% of the lower explosive limit for flammable and combustible materials.
TBD

Personnel making notifications should record date, time and full name of FDO representative taking the call. When dialing 911 from a mobile phone, specify the Naval Facility where the emergency is at.

Name of FDO Rep: _____ Date: _____ Time: _____

Notes:

1. High Risk evolutions include, but are not limited to, the initial openings of CHT and MOGAS tanks, associated piping, and all refrigerant transfers.
2. Emergent work preventing 24 hour notification must be made to Federal Dispatch Office as soon as management becomes aware.

[Copy to: Ship's CO, The SUPERVISOR (SupShip GC), Trade, QA Files]

**CHECK-OFF SHEET FOR CERTIFYING
CHT TANKS OR ASSOCIATED PIPING**

| SHIP: USS SOMERSET (LPD-25) | | WORK ITEM: 991-11-004 | PCP#: CMC-100147-14 | |
|---|------------------------|--|---------------------|----------|
| Section | Ref. Para | ITEM | OK | INITIALS |
| Cleaning Equipment To Be Utilized | 3.1.1 | Vacuum Truck <input type="checkbox"/> , Holding Tank <input type="checkbox"/> , or * Pier Riser <input type="checkbox"/> | | |
| | 3.1.2 | Pneumatic Operated Pump | | |
| | 3.1.3 | Vacuum Hose | | |
| | 3.1.4 | Air Hose | | |
| | 3.1.5 | High Pressure Hose | | |
| | 3.1.6 | Liquid LA CHEMCHLOR (Sodium Hypochlorite 12.5% solution) | | |
| Safety Equipment In Place On Site | 3.2.1 | Gas Meter (Oxygen, Hydrogen Sulfide, LEL), (Calibration Current) | | |
| | 3.2.2 | NIOSH approved atmosphere-supplying respirators and equipment IAW 009-88 (CHT and MOGAS Tanks, Spaces And Piping) | | |
| | 3.2.3 | Rubber Suits, Boots, Gloves, Face Shield & Safety Glasses. (Tyvek coveralls not Authorized) | | |
| | 3.2.4 | Breathing air hoses | | |
| | 3.2.5 | Explosion Proof Blower with Non-ferrous Blower Blades | | |
| | 3.2.6 | Ventilation Ducting (non-sparking) | | |
| | 3.2.7 | Explosion Proof Lights | | |
| | 3.2.8 | Non-sparking tools. All tools utilized to open tanks or associated piping shall be furnished by personnel performing this process control procedure. (Use of Ship's Force tools not authorized) | | |
| | 3.2.9 | Grounding straps | | |
| | 3.2.10 | Harness and Life line or lifeline and rescue tripod | | |
| | 3.2.11 | Communications devices | | |
| Safety Precautions In Place On Site | 3.3.1 | Notification Delivered To Supervisor And The Ship's CO | | |
| | 3.3.4 | CHT system "Tag-Out" IAW Standard Item 009-24 | | |
| | 3.3.6 | Hot work secured | | |
| | 3.3.7 | Warning signs posted | | |
| | 3.3.8 | Ventilation Set Up | | |
| | 3.3.10 | Respirator and Breathing apparatus Set Up | | |
| | 3.3.11.A | Qualified/Trained Personnel Assigned | | |
| | 3.11.D(3) | Rescue Test Performed | | |
| 3.6.1 | Marine Chemist On Site | | | |

* NOTE: Hazardous Waste Manifest is not required when Pier Riser is used.

Prime Contractor Safety Department: _____ Date: _____
(or representative as designated by
Prime Contractor Safety Department)

APPENDIX 4

NASSCO

JOB CONTROL NUMBER
UIC: 23181 OCC: ERO1 JSN: 0090
Page 0001
WCID: 23181 00 083114224436 3600

SHIP'S NAME: USS SOMERSET (LPD 25)
APL/AEL: 018880394
EQUIPMENT NOUN NAME: PUMP, VCHT EJECTOR #1A
SERIAL ID: 7416325-0017-MK
EIC: T700000
LOCATION: 7-25-01-E
CONFIGURATION CHANGE: YES
WORK REQ ROUTINE NO:

P93350-5
Peter Kronzer: 619-778-9482
10/9 -> 10/19

FOR INSURV BOARD USE NUMBER: SUFFIX: MISSION: SAFETY: R & M:

DEFERRAL ACTION COMPLETED ACTION
DEFERRAL DATE: Aug 31 2014 SHIP'S FORCE M/H:
S/F M/H REMAINING: COMPLETION DATE:
DEADLINE DATE: ACTIVE MAINT TIME:
DEFERRAL REASON: Lack of TROUBLE ISOLATION:
Facilities/Capabilities ACTION TAKEN:

WORK CANDIDATE SUMMARY: PUMP LEAKING OIL

CONTACTS SITE SCREENING: Depot
1st CONTACT: Westgerdes, Raymond IUC SCREENING:
2nd CONTACT: HAYS, JOSHUA
FINAL SCREENER: TYCOM SCREENING:
REFERRED FROM: PRIORITY: Desirable
REFERRED TO: NO

LOCAL
A:
B:
C:

SIGNATURE BLOCK
COMMANDING OFFICER:  DATE: 25 SEP 14
COMPLETE BY: DATE:
ACCEPTED BY: DATE:

Problem Description: DURNING PCT INSPECTION IT WAS NOTED THAT 1A EJECTOR PUMP IS LEAKING OIL BETWEEN CASING AND MOTOR.

Problem Solution: REQUEST OUTSIDE ACTIVITY TO INSPECT, REMOVE, REPAIR AND REINSTALL 1A EJECTOR PUMP IF NECESSARY.

Actual Solution:

Closing Remarks: **MECHANICAL SEALS (Not covered under warranty)**

~~0510-25-910~~
~~Report 9/16/14~~
~~Screened to PMS-21 for action~~

MORRIS

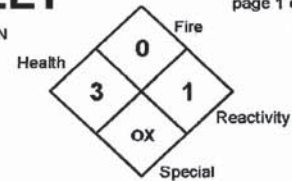
MATERIAL SAFETY DATA SHEET

BRENNTAG

| |
|---|
| Brenntag MSDS #: BPI-00283 |
| MSDS Revision/Issue Date: 04/21/11 |
| Supersedes Revision Date: 08/11/08 |

NFPA 704 DESIGNATION
HAZARD RATING

4=Extreme
3=High
2=Moderate
1=Slight
0=Insignificant



| 1. CHEMICAL PRODUCT IDENTIFICATION & COMPANY IDENTIFICATION | |
|---|---|
| PRODUCT IDENTIFIER: | LA Chemchlor |
| GENERAL USE: | This product is registered with the EPA for use as a disinfectant and sanitizer and can be used for those purposes as listed on the product's label. |
| PRODUCT DESCRIPTION: | An aqueous solution of Sodium Hypochlorite. Synonyms for Sodium Hypochlorite include: Dakins solution; hychlorite; sodium chloride oxide; and sodium oxychloride. |
| INFORMATION PROVIDED BY: | Brenntag Pacific, Inc. 10747 Patterson Place Santa Fe Springs, CA 90670 |
| For MSDS call: PHONE: 662-903-9626 | EMERGENCY PHONE NUMBERS |
| | CHEMTREC: 800-424-9300 |

| 2. COMPOSITION & INFORMATION ON INGREDIENTS | | | | | | | |
|---|-----------|---------------------------------|-----------------|--|------|----------------------|------|
| COMPONENT | CAS # | OSHA HAZARD | WT % | ACGIH | | OSHA | |
| | | | | TLV _(TWA) | STEL | PEL _(TWA) | STEL |
| Sodium Hypochlorite | 7681-52-9 | Corrosive; Oxidizer; Lung toxin | 12.5 Minimum | None | None | None | None |
| Sodium Hydroxide | 1310-73-2 | Corrosive; Lung toxin | 2.0 Maximum | None | None | 2 mg/m ³ | None |
| | | | | AIHA WEEL 2 mg/m ³ (for 15 minutes) | | | |
| | | | | Ceiling: 2 mg/m ³ | | | |
| | | | | NDA = No Data Available | | N/A = Not Applicable | |

| 3. HAZARDS IDENTIFICATION | |
|---------------------------------|--|
| EMERGENCY OVERVIEW: | A clear, light yellow-green liquid having a chlorine-like odor. The liquid and mists can be corrosive to the eyes, skin and respiratory tract. Inhalation of high mist concentrations can cause permanent lung damage. The NIOSH I.D.L.H. for Sodium Hydroxide is: 10 mg/m ³ . |
| POTENTIAL HEALTH EFFECTS | |
| INHALATION: | Inhalation of mists may be severely irritating or corrosive to the nose, mouth, throat, mucous membranes and lungs. Symptoms of exposure may include shortness of breath, sneezing, coughing, choking, chest pain, impairment of lung function and burns to the respiratory tract with the production of lung edema. Inhalation of high mist concentrations may result in permanent lung damage. |
| EYE CONTACT: | Exposure to the liquid or mists may cause severe eye irritation or burns. Symptoms of exposure may include tearing, redness, swelling and pain. Corneal damage with impairment of vision may result from direct contact with the liquid and mists, unless treated promptly. |
| SKIN CONTACT: | Exposure to the liquid or mists may cause severe skin irritation or burns. Symptoms of exposure may include redness, swelling, discomfort or pain and possible scab formation. Prolonged skin exposure to the liquid may cause destruction of the dermis with impairment of the skin, at site of contact, to regenerate. No published data indicates this product is absorbed through the intact skin. |
| INGESTION: | Ingestion may cause severe irritation or burns to the entire gastrointestinal tract, including the stomach and intestines. Symptoms of exposure may include nausea, vomiting, diarrhea, abdominal pain, with possible bleeding and/or tissue ulceration. |
| CHRONIC: | The chronic health effects, of exposure, to this product's liquid or mists, are expected to be the same as for acute exposure. |

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PRODUCT IDENTIFIER: **LA Chemchlor**

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4. FIRST AID MEASURES

INHALATION: If inhaled, immediately move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; use the Holger Nielsen method (back pressure – arm lift) or proper respiratory medical device. If breathing is difficult, give oxygen. Call a physician.

EYE CONTACT: In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Remove contact lenses, if worn. Get medical attention immediately.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of clean running water for at least 15 minutes, while removing contaminated clothing and shoes. If burn or irritation occurs, call a physician.

INGESTION: If swallowed, DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give plenty of water to drink. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: Sodium hypochlorite solutions have a relatively low oral toxicity, but can be corrosive to the eyes, skin and mucous membranes. If ingested, consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Treat exposure symptomatically.

5. FIRE FIGHTING MEASURES

Flashpoint and Method: This product does not flash.

Flammable Limits (in air, % by volume) Lower: Not applicable Upper: Not applicable

Autoignition Temperature: Not applicable

GENERAL HAZARD: This product is a non-combustible, aqueous solution of inorganic salts. The Uniform Fire Code health hazard rating for this product is: **Corrosive (Alkaline)**. Dilute solutions of this product may also be corrosive. This product can release Oxygen and/or Chlorine gases. Any contamination or heat will accelerate this product's break down and release of the above gases.

FIRE FIGHTING INSTRUCTIONS: **EXTINGUISHING MEDIA:** Flood with water or CO₂.
Use a water spray or fog to cool the containers exposed to the heat of a fire.

FIRE FIGHTING EQUIPMENT: Fire fighters should wear full protective equipment, including self-contained breathing apparatus.

HAZARDOUS COMBUSTION PRODUCTS: When heated to dryness and decomposition, this product emits toxic chloride fumes plus toxic sodium oxide. This solution will slowly liberate Oxygen.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL: Wearing recommended protective equipment and clothing, dike the spill and pick up the bulk of liquid using pumps or a vacuum truck, or absorb the liquid in sand or a commercial absorbent. Place in approved containers for recovery, disposal, or satellite accumulation. Neutralize the hypochlorite or available chlorine with a dilute solution of Sodium Sulfite or Sodium Thiosulfate. Neutralize the alkalinity, of the remaining liquid, using a dilute acid solution that is appropriate for neutralizing alkaline liquids. Liberally cover the spill area with Sodium Bicarbonate. Flush the spill area with water; collect the rinsates for disposal or sewer, as appropriate.

WATER SPILL: Wear recommended protective equipment and clothing if contact with hazardous material can occur. Stop or divert water flow. Dike contaminated water and remove for disposal and/or treatment. As appropriate, notify all downstream users of possible contamination.

PRODUCT IDENTIFIER: **LA Chemchlor**

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| 7. HANDLING AND STORAGE | | | |
|--|--|--|-------------------|
| STORAGE TEMPERATURE: Below 21° C. (70° F.) | STORAGE PRESSURE: Ambient | | |
| GENERAL: Store in a cool, dry, well-ventilated area away from incompatible materials and products. Protect this product from direct sunlight and heat to avoid deterioration. Do not allow this product to freeze. Open containers slowly to relieve any possible pressure. Do not store in metallic containers. Do not allow this solution to dry out. Do not get this product in eyes, on skin or on clothing. Wear recommended personal protective equipment when handling this product. Avoid breathing vapors, mists or aerosols. Use with adequate ventilation. Keep the containers tightly closed when not in use. Wash thoroughly after handling this product. | | | |
| 8. EXPOSURE CONTROLS / PERSONAL PROTECTION | | | |
| CONTROL MEASURES: | Use a local or general, mechanical exhaust ventilation system capable of maintaining emissions, in the work area, below the OSHA-PEL, ACGIH Ceiling level, AIHA WEEL or those levels that may cause irritation. | | |
| RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT | | | |
| RESPIRATOR: | For exposure above the OSHA-PEL, ACGIH Ceiling level, AIHA WEEL or levels that may cause irritation, wear a NIOSH-approved full facepiece or half mask air-purifying cartridge respirator equipped with a good mist / particulate and acid gas cartridges or supplied air. | | |
| EYES: | Wear chemical goggles (recommended by ANSI Z87.1-1979), unless a full facepiece respirator is worn. | | |
| GLOVES: | Wear Butyl Rubber, Neoprene, Nitrile or Natural Rubber gloves. | | |
| CLOTHING & EQUIPMENT: | Wear a Butyl Rubber, Neoprene, Nitrile or Natural Rubber apron or full protective clothing when handling this product. An eye wash station and safety shower should be available in the work area. | | |
| FOOTWEAR: | Wear Butyl Rubber, Neoprene, Nitrile or Natural Rubber boots, when handling or cleaning up a spill. | | |
| 9. PHYSICAL AND CHEMICAL PROPERTIES | | | |
| Appearance: | Clear, light yellow-green | Bulk Density (pounds/m³): | Not applicable |
| Physical State: | Liquid | Vapor Pressure: | No data available |
| Odor: | Chlorine-like | Vapor Density (air=1): | No data available |
| Odor Threshold: | 0.3 ppm in air (Chlorine) | Evaporation Rate (n-Butyl Acetate=1): | No data available |
| Molecular Formula: | Mixture | VOC Content: | Nil |
| Molecular Weight: | Not applicable | % Volatile: | Approximately 74 |
| Boiling Point: | Decomposes at 110° C. (230° F.) | Solubility in H₂O: | Complete |
| Freezing/Melting Point: | Approximately -26.1° C. (-15° F.) | Octanol/Water Partition Coefficient: | No data available |
| Specific Gravity: | Approximately 1.22 @ 20° C. | pH (as is): | 12.5 – 13.5 |
| Density (pounds/gallon): | Approximately 10.17 | pH (1% solution): | 11.0 – 12.0 |
| 10. STABILITY AND REACTIVITY | | | |
| GENERAL: This product is stable and hazardous polymerization will not occur | | | |
| CONDITIONS TO AVOID: | Avoid heat, sunlight, decrease in pH, and contamination with heavy metals. | | |
| INCOMPATIBLE MATERIAL: | Acids & acidic materials or products, alcohols, amines, Ammonia, chlorinated isocyanurates, flammable or combustible materials, metals & metallic salts, cyanides, detergents, ethers, oxidizable materials, reducing agents and other oxidizers. | | |
| HAZARDOUS DECOMPOSITION PRODUCTS: | When heated to dryness and decomposition, it emits toxic chloride fumes plus toxic sodium oxide. This solution will slowly liberate Oxygen. | | |
| SENSITIVITY TO MECHANICAL IMPACT: | This product is <u>not</u> sensitive to mechanical impact. | | |
| SENSITIVITY TO STATIC DISCHARGE: | This product is <u>not</u> sensitive to static discharge. | | |

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PRODUCT IDENTIFIER: **LA Chemchlor**

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| 11. TOXICOLOGICAL INFORMATION | | |
|--|---|---|
| Components: | <u>Sodium Hypochlorite</u> | <u>Sodium Hydroxide</u> |
| Eye Contact: | Rabbit: 10 mg; Moderate | Rabbit: 1 mg/24 hours; Severe |
| Skin Contact: | No data available | Rabbit: 500 mg/24 hours; Severe |
| Oral Rat LD₅₀: | 890 mg/kg (solid) | No data available |
| Dermal Rabbit LD₅₀: | Greater than 10 gm/kg | 1,350 mg/kg |
| Inhalation Rat LC₅₀: | Greater than 10.5 mg/Liter/1 hour | No data available |
| Human Data: | Oral Woman TD _{Lo} : 1 gm/kg; Behavioral effects | No data available |
| Other Toxicological Data: | Oral Mouse LD ₅₀ : 5,800 mg/kg | Oral Rabbit LD _{Lo} : 500 mg/kg |
| Carcinogenicity: | No data available | No data available |
| Teratogenicity: | No data available | No data available |
| Mutagenicity: | Human Cytogenetic Analysis; Lymphocyte: 100 ppm/24 hours | Hamster Cytogenetic Analysis; Lung: 10 mmol/Liter |
| Synergistic Products: | None reported | None reported |
| Target Organs: | Eyes, Skin, Mucous membranes & Lungs | Eyes, Skin, Mucous membranes & Lungs |
| Medical Conditions | | |
| Aggravated By Exposure: | Skin or Respiratory disorders | Skin or Respiratory disorders |
| 12. ECOLOGICAL INFORMATION | | |
| ENVIRONMENTAL FATE: This product is completely soluble in water. No specific environmental fate information is available. This product will affect the pH of water. | | |
| ENVIRONMENTAL CONSIDERATIONS: The specific aquatic toxicity for this product has not been determined. However, the EPA considers this product to be toxic to fish and aquatic organisms. | | |
| 13. DISPOSAL CONSIDERATIONS | | |
| RCRA 40 CFR 261 CLASSIFICATION: Corrosive Waste | | |
| U.S. EPA WASTE NUMBER/DESCRIPTION: D002 | | |
| If this product is disposed of as shipped, it meets the criteria of a hazardous waste as defined under 40 CFR 261 due to its corrosivity. If this product becomes a waste, it will be a hazardous waste, which is subject to the Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly. As a hazardous liquid waste, it must be disposed of in accordance with local, state, and federal regulations in a permitted hazardous waste treatment, storage, and disposal facility. | | |
| 14. TRANSPORTATION INFORMATION | | |
| DOT PROPER SHIPPING NAME: | Hypochlorite solutions | |
| | Hazard Class: 8 | UN Number: UN1791 |
| | Primary Label: Corrosive | Packing Group: III |
| | Primary/Subsidiary Placards: Corrosive | Subsidiary Label(s): None Required |
| DOT Reportable Quantity (RQ): | 100 pounds (NaOCl) | RQ for Product: 800 pounds (78.6 gallons) |
| Marine Pollutant: | No | |
| 2008 North American Emergency Response Guidebook No.: | 154 | |
| TDG PROPER SHIPPING NAME: | HYPOCHLORITE SOLUTIONS | |
| | Hazard Class: 8 | UN Number: UN1791 |
| | Primary Label: Corrosive | Packing Group: III |
| | Primary/Subsidiary Placards: Corrosive | Subsidiary Label(s): None Required |
| TDG Reportable Quantity (RQ):[#] | At least 5 kg or 5 liters. | |
| TDG Schedule XII: | Not listed | |
| Regulated Limit (RL):^{##} | 5 kg (NaOCl) | RL for Product: 40 kg (32.8 liters) |
| Other Shipping Information: | None | |
| [#] Canadian Transportation of Dangerous Goods Regulations (TDGR), Part IX, Table 1, Quantities or levels for Immediate Reporting: releases of reportable quantities, RQ, that meet the definition of a "dangerous occurrence" (a threat to life, health, property, or the environment) must be reported to the appropriate authorities as outlined in TDGR 9.13(1) and 9.14(1). | | |
| ^{##} Reporting to Environment Canada is required for any releases exceeding the regulated limits, RL, of 9.2 materials (primary or secondary). The regulated limits are found in Schedule XIII of the TDGR. | | |

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PRODUCT IDENTIFIER: **LA Chemchlor**

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15. REGULATORY INFORMATION

| COMPONENTS: | Sodium Hypochlorite | Sodium Hydroxide |
|--|--|---|
| OSHA Target Organs: | Eyes, Skin, Mucous membranes & Lungs | Eyes, Skin, Mucous membranes & Lungs |
| Carcinogenic Potential: | | |
| Regulated by OSHA: | No | No |
| Listed on NTP Report: | No | No |
| Listed by IARC: | Yes | No |
| IARC Group: | Group 3 | Not applicable |
| ACGIH Appendix A: | Not listed | Not listed |
| A1 Confirmed Human: | Not applicable | Not applicable |
| A2 Suspected Human: | Not applicable | Not applicable |
| U.S. EPA Requirements | | |
| Release Reporting | | |
| CERCLA (40 CFR 302) | | |
| Listed Substance: | Yes | Yes |
| Reportable Quantity: | 100 pounds | 1,000 pounds |
| Category: | B | C |
| RCRA Waste No.: | None listed | None listed |
| Unlisted Substance: | Not applicable | Not applicable |
| Reportable Quantity: | Not applicable | Not applicable |
| Characteristic: | Not applicable | Not applicable |
| RCRA Waste No.: | Not applicable | Not applicable |
| SARA TITLE III | | |
| Section 302 & 303 (40 CFR 355): | | |
| Listed Substance: | Not listed | Not listed |
| Reportable Quantity: | Not applicable | Not applicable |
| Planning Threshold: | Not applicable | Not applicable |
| Section 311 & 312 (40 CFR 370): | | |
| Hazard Categories (product): | Fire: <u>N</u> | Sudden Release of Pressure: <u>N</u> |
| Planning threshold: | 10,000 pounds | 10,000 pounds |
| | | Reactive: <u>N</u> |
| | | Acute Health: <u>Y</u> |
| | | Chronic Health: <u>N</u> |
| Section 313 (40 CFR 372): | | |
| Listed Toxic Chemical: | Not listed | Not listed |
| Reporting Threshold: | Not applicable | Not applicable |
| U.S. TSCA Status | | |
| Listed (40 CFR 710): | Yes | Yes |
| State Regulations | | |
| State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65): | | |
| Carcinogen: | No | No |
| Reproductive Toxin: | No | No |
| Other Regulations | | |
| State Right To Know Laws: | MA, NJ, PA, CA | |
| Canadian Regulations | | |
| Product Information: | | |
| Controlled Product: | Yes | |
| WHMIS Hazard Symbols: | Material Causing Other Toxic Effects; Corrosive Material | |
| WHMIS Class & Division: | D.2B; E | |
| Ingredient Information: | | |
| IDL Substance: | Yes | Yes |
| DSL or NDSL Lists: | DSL | DSL |

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PRODUCT IDENTIFIER: **LA Chemchlor**

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16. OTHER INFORMATION

EPA Registration number: 66887 - 4

Approved Product Uses: Consult this product's label for all of the EPA registered usage directions.

Special Notes:

This product is not manufactured to contain any substances, which the State of California has found to cause cancer and/or birth defects or other reproductive harm.

Special Instructions:

Store LA Chemchlor in a cool, dry, well ventilated area, away from heat, direct sunlight and incompatible materials or products.

When making solutions, always add this product to clean water with adequate mixing to ensure a uniform solution.

Do not add LA Chemchlor to acids, or acidic sanitizers and cleaners, as this liberates toxic, corrosive Chlorine gas.

MSDS Revision Information: Information Revised This Issue Date: **Updated per new contact and regulatory information.**
Form Revision made 2/19/09

MSDS Distributed by: Brenntag Pacific, Inc.

Prepared By: Edward Doheny

Date Prepared: April 21, 2011

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