

Notice of Change to Controlled Documents #275-279 / 12 Nov 2015

Summary of Changes

Revisions managed by: Shannon Smith

Purpose: [275] The update in Chapter 3 of chief mate to HSE officer was not reflected in the HSE officer SOP. This one updates the HSE SOP. [276] Moved Medic and Recordables section to contractor SOP so all contractor info is in one place. [277] SDS binders are a frequent hit in audits and this clearly assigns responsibility and instructs them on what each binder should contain [278] Chapter name restored to match ISM code. Contractor section removed [279] We are hoping these KPIs will require the vessels to pay more attention to drills and contractors- frequent hit items.

NOC#	Ch., Sec., SOP	Summary	Revision#
275	SOP-GEN-2014C	HSE officer updated, Medic and Recordables section moved to contractor SOP	#3
276	SOP-GEN-2015D	Contractor SOP established	#1
277	SOP-GEN-2013B	Contractor section shortened. SDS contents and organization specified. SDS maintenance is responsibility of the First Mate	#5
278	Ch 2	Chapter name restored to match ISM code. Contractor section moved to new contractor SOP	#18
279	Weekly Report	New HSE KPIs added to weekly reports	Nov 2015

Date Completed _____

Date Completed _____

11-15-15 SS SMM TOC page updated

_____ NOC pdf posted on CM

_____ NOC web page updated

_____ Vessel acks recorded

_____ SMM- each section updated

_____ Office controlled SMM updated

_____ NOC sent to fleet

Approvals

Approved for Distribution

Date 11/13/2015 Initials PT

Print Name Pete Tatro

Approvals

Approved for Distribution

Date 11/16/2015 Initials JB

Print Name James Brooks

NOC # 275: SOP-GEN-2014C HSE Officer- ALL

Revision #	Section(s)
Revision #3	See attached revised SOP

NOC # 276: SOP-GEN-2015D Contractors- NEW

Revision #	Section(s)
Revision #1	See attached new SOP

NOC # 277: SOP-GEN-2013B HazCom- NEW

Summary: Contractor section shortened. SDS contents and organization specified. SDS maintenance is responsibility of the First Mate

Revision #	Section(s)
Revision #5	<p>New SDS binder maintenance section:</p> <p>5.3 SDS Binder Maintenance</p> <p>The First Mate is responsible for ensuring that all SDS binders on the vessel are maintained and updated as needed. Each SDS binder must contain in this order:</p> <ul style="list-style-type: none">• A current copy of this SOP• List of Chemicals at that specific location• SDS for each chemical on the List of Chemicals <p>The person ordering or purchasing new chemicals is responsible for adding the new SDS to the binder. These should be delivered with the product. If not, most SDSs can be found easily with an Internet search. Inform the HSE Manager if you cannot locate an SDS for a product.</p> <p>New contractors section:</p> <p>5.8 Informing Contractors</p> <p>Contractors working on TDI vessels or facilities must participate in a Contractor Safety Meeting before starting work. Among other topics to be covered in this meeting are:</p> <ul style="list-style-type: none">• Any hazardous chemicals to which contractors may be exposed on site• The location(s) of the safety data sheets• Location and use of the PPE Matrix, which describes appropriate PPE for routine tasks.

NOC # 278: Ch 2 Safety and Environmental Policy

Revision #	Section(s)
Revision #18	<p>Old chapter name and contents:</p> <p style="text-align: center;">Chapter 2 General Company Policies</p> <ul style="list-style-type: none"> 1.0 <u>Introduction</u> 2.0 <u>Responsibility</u> 3.0 <u>Company Health, Safety and Environment Policy</u> 4.0 <u>Drug and Alcohol Policy</u> 5.0 <u>Firearms and Weapons Policy</u> 6.0 <u>Smoking Policy</u> 7.0 <u>Visitors</u> 8.0 <u>Harassment</u> 9.0 <u>Driving Policy</u> 10.0 <u>Short Service Employee (SSE)</u> 11.0 <u>Restricted Work Program</u> 12.0 <u>Management of Subcontractors</u> <ul style="list-style-type: none"> 12.1 <u>Before Work May Begin</u> 12.2 <u>Contractor's Responsibilities</u> 12.3 <u>Implementation & Penalties for Violation</u> 13.0 <u>No Lone Deck Work</u> <p>New chapter name and contents:</p> <p style="text-align: center;">Chapter 2 Safety and Environmental Protection Policy</p> <ul style="list-style-type: none"> 1.0 <u>Introduction</u> 2.0 <u>Responsibility</u> 3.0 <u>Company Health, Safety and Environment Policy</u> 4.0 <u>Drug and Alcohol Policy</u> 5.0 <u>Firearms and Weapons Policy</u> 6.0 <u>Smoking Policy</u> 7.0 <u>Visitors</u> 8.0 <u>Harassment</u> 9.0 <u>Driving Policy</u> 10.0 <u>Short Service Employee (SSE)</u> 11.0 <u>Restricted Work Program</u> 12.0 <u>No Lone Deck Work</u>

NOC # 279: New Weekly Report

Revision #	Section(s)
Revision # Nov 2015	See attached revised Weekly Report

SAFETY MANAGEMENT MANUAL



SOP-GEN-2014C
Health, Safety and
Environmental Officer

Rev # 3

Revision date: 12 Nov 2015

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SOP GEN-2014C Health, Safety and Environmental Officer

- 1.0 [Introduction](#)
- 2.0 [Responsibilities](#)
 - 2.1 [Leadership](#)
 - 2.2 [Risk Assessment and Mitigation](#)
 - 2.3 [Compliance](#)
 - 2.4 [Training](#)
 - 2.5 [Reporting/ Recordkeeping](#)
- 3.0 [HSE Reporting Structure](#)
- 4.0 [Contractors](#)

Revision/ Review Log

Revision Date	Approved by	Reviewed by	Revision Details/ Proposal Notes
28 July 2014 Revision #1	Dr. Jim Brooks Mr. Pete Tatro	Dr. Jim Brooks Mr. Pete Tatro Dr. James Howell	HSE Officer position and duties defined
08 January 2015 Revision #2	Dr. Jim Brooks Mr. Pete Tatro	Dr. Jim Brooks Mr. Pete Tatro Dr. James Howell	Medic Policy Review sign in sheet created
12 November 2015 Revision #3	Dr. Jim Brooks Mr. Pete Tatro	Dr. Jim Brooks Mr. Pete Tatro Dr. James Howell	Subcontractor section moved to new SOP-GEN-2015D. OSHA reporting requirements updated. First Mate designated HSE Officer aboard.

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1.0 Introduction

The Health, Safety and Environmental Officer is the designated person on a vessel responsible for preventing accidents and injuries and ensuring that work is carried out safely and in compliance with regulatory HSE requirements and company policies and procedures.

The First Mate is the designated HSE Officer on board TDI-Brooks vessels.

Project specific HSE Officers may work on the vessel during projects but must coordinate their activities with the First Mate.

2.0 Responsibilities

The HSE Officer is responsible for a number of duties, all of which are geared toward the prevention of accidents, illnesses, injuries and harm to the environment. The HSE Officer's duties are listed below.

2.1 Leadership

- Promote correct HSE behaviors through personal example.
- Take action on any health, safety or environmental matter brought to their attention.
- Facilitate effective two way communication with the crew and technical team regarding HSE issues.
- Bring any HSE issues that require management intervention to the attention of the Master, who will report to the company HSE Manager.
- Lead or assist with incident investigations.
- Assist with the development of corrective action plans related to HSE issues.

2.2 Risk Assessment and Mitigation

- Conduct health and safety inspections.
- Conduct Job Safety Analyses (JSAs).
- Evaluate the work site, processes and activities for the presence of hazards and act to mitigate them.
- Ensure PPE provided is appropriate to the work, in sufficient supply and in good condition.
- Exercise and document STOP WORK authority.
- Encourage reporting of HSE issues. (Safety Observation Cards, Employee Incident Reports).

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- Review and monitor the vessel Safety Observation Card program to make sure it is used effectively and that reported hazards are addressed in a timely manner.
- Conduct Management of Change (MOC) assessment for any proposed change to standard procedures.

2.3 Compliance

- Ensure that all operations are conducted in compliance with company HSE policies and procedures.
- Work with the client to ensure project specific HSE bridging documents are reviewed prior to the start of the project and followed during the project.
- Maintain SDS binders with current HAZCOM policy, chemicals list and SDSs.

2.4 Training

- Conduct weekly HSE special topic meetings (HSE Toolbox Talks).
- Conduct Safety at Sea presentations at the Pre-Start Safety Meetings.
- Conduct Core Safety Training for crew.

2.5 Reporting/ Recordkeeping

- Ensure that all incidents are recorded in NS5
- Ensure that the incident report forms and supporting documentation are attached to the NS5 report.
- Ensure that Emergency Drills are conducted when required and entered into NS5.
- Conduct and document vessel orientation for all who sail.
- Complete and turn in weekly and monthly reports to HSE Manager.

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3.0 HSE Reporting Structure



4.0 Contractors

The HSE Officer is responsible for ensuring all employees, visitors and contractors follow TDI safety policies and procedures. See **SOP-GEN-2015D** for details.

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SOP-GEN-2015D Contractors

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- 2.0 [Responsibility](#)
- 3.0 [Evaluation and Verification of Contractors](#)
 - 3.1 [Medics and Marine Mammal Observers](#)
 - 3.2 [Survey and Technical Team](#)
 - 3.3 [Shipyard Dry Dock](#)
 - 3.4 [Independent Contractors](#)
- 4.0 [Contractor's Responsibilities](#)
- 5.0 [Implementation & Penalties for Violation](#)
- 6.0 [Medics](#)
 - 6.1 [Definitions](#)
 - 6.2 [Recordable Events](#)

Revision/ Review Log

Revision Date	Approved by	Reviewed by	Revision Details/ Proposal Notes
12 Nov 2015 Revision #1	Dr. Jim Brooks Pete Tatro	Dr. Jim Brooks Pete Tatro Dr. James Howell <i>Charlie Emerson</i>	Contractor policies moved into a single SOP from Ch 2 and Sop-GEN-2014C.

Dr. Jim Brooks

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1.0 Introduction

TDI-Brooks International hires contractors such as medics, technicians, marine mammal observers or survey specialists for various positions or projects. In addition, contractors are frequently required for construction or repair on our vessels.

Contractors and their subcontractors are expected to follow TDI-Brooks safety policies and procedures at all times.

TDI-Brooks reserves the right to audit/ inspect the contractor's HSE program, equipment, records and operations before, during and after performance of the work.

2.0 Responsibilities

The **First Mate**, as the HSE Officer aboard, is responsible for ensuring that all employees, visitors and contractors follow the TDI safety policies and procedures and any variations covered by the Project Specific HSE Plan.

3.0 Evaluation and Verification of Contractors

The person hiring the contractor for the job is responsible for ensuring that the contractor is properly trained and certified for that job. This can be done in a variety of ways depending on the contractor and type of work.

3.1 Medics and Marine Mammal Observers

Medics and Marine Mammal Observers are requested by the clients and their CVs, certifications and credentials are submitted to the client for review and approval.

3.2 Survey and Technical Team

TDI-Brooks has a small pool of preferred survey contractors whom we have used for some time. On occasion we will have to hire through an agency. Prospective survey contractors are vetted via their CVs and work history. The first survey with TDI-Brooks is a probationary position during which the Survey Manager and Party Chief review and discuss the contractor's performance. At the end of the survey the Survey Manager and Party Chief will make recommendations as to whether the contractor should be eligible for rehire.

3.3 Shipyard and Dry Dock

The Port Engineer schedules dry dock and shipyard services. **The Contractor Safety System Questionnaire** has been developed to assist him in evaluating the contractor's safety system during the vetting process.

Before work begins, the Port Engineer conducts a kickoff meeting with the shipyard's assigned Project Manager, Safety Officer and other affected personnel to discuss the scope of the project and safety management aspects of the work. They agree on whose

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safety management system to follow during the job and any bridging procedures. This is documented and entered into NS5 as the **Contractor Safety Meeting**.

The Port Engineer holds daily safety meetings with the Shipyard's Safety Officer and affected personnel for the duration of the project. He is on site to personally supervise the contractors and will often have the Chief Engineer supervise the work as well. They will discuss the skills, safety practices and quality of work to evaluate the contractors and determine if the contractor should be used again.

Records of meetings, permits, certificates and other documents related to the contractor's work are maintained on the vessel.

3.4 Independent Contractors

Independent contractors are referred to the Port Engineer through agents or his personal network or hired by the vessel locally. Certifications and CVs are reviewed when available. This is not always possible in remote locations.

The Chief Engineer will supervise and evaluate the work of the independent contractor and ensure that he follows TDI-Brooks safety system procedures.

4.0 **Contractor's Responsibilities**

Contractors are responsible for:

- Communicating to their employees and any subcontractors the health and safety policies and expectations of TDI-Brooks
- Providing task-appropriate PPE for their employees
- Ensuring that their equipment is in safe and proper working condition
- Correcting unsafe conditions promptly and to the satisfaction of TDI-Brooks
- Conducting regular safety meetings for their employees or participating in joint safety meetings conducted by TDI-Brooks
- Monitoring their work activities to ensure safe working practices and conditions
- Notifying the TDI-Brooks First Mate immediately about any accidents involving their employees on TDI-Brooks' vessels or property.

5.0 **Implementation & Penalties for Violation**

The First Mate is responsible for implementing this policy. In the absence of a vessel crew, the Port Engineer is responsible for implementing the policy. The contractor will take prompt action to correct any violations to the satisfaction of TDI-Brooks.

Violation of TDI-Brooks' policy or any applicable government law or regulation is grounds for cancelation of contract and revocation of access by the offending parties to any TDI-Brooks vessel.

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6.0 Medics

At times, a client will hire a medic for the duration of a project. **Before the project begins, the HSE Officer needs to review TDI expectations and procedures in a Medic Policy Review meeting.** The Medic Policy Review sign in sheet can be found on the TDI Forms page.

TDI-Brooks and most of their clients follow the OSHA recordable policy. It is important that the medic understand what determines if an event is recordable and when appropriate, use alternative, non- recordable treatments.

Review the OSHA definitions of first aid with the medic prior to the start of the project. The medic is expected to consult with the HSE Officer before administering any treatment beyond first aid.

6.1 Definitions

First Aid- 29 CFR 1904.7(b)(5)(ii) **Only** the following may be considered first aid treatment:

1. Non-prescription medication at non-prescription strength
2. Tetanus immunizations
3. Cleaning, flushing or soaking wounds on the surface of the skin
4. Wound coverings such as gauze pads or Band-Aids
5. Hot or cold therapy
6. Non-rigid means of support such as elastic bandages or flexible arm slings
7. Temporary immobilization devices used solely to transport an accident victim (backboards, neck collars, splints)
8. Drilling a fingernail or toenail to relieve pressure or draining fluid from a blister
9. Eye patches
10. Removing foreign material from the eye using irrigation, tweezers or cotton swabs
11. Finger guards

Medical Treatment- Any treatment beyond first aid as defined by the regulation. It does NOT include visits to a physician or medical center for evaluation of an injury. It does NOT include diagnostic procedures such as x-rays, blood test or CAT scans.

Recordable- A term used by OSHA to determine if an injury or illness should be recorded as part of OSHA record keeping requirements. 29 CFR 1904.7(a) is used as a guideline by many of our clients.

Reportable- Any event resulting in the death or in-patient hospitalization of an employee, any amputation or loss of an eye [29 CFR 1904.39(a)]. Reporting to regulatory authorities including Flag States is the responsibility of the Designated Person Ashore (DPA).

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6.2 Recordable Events

TDI-Brooks expects all incident, illnesses and injuries to be reported, no matter how small. See incident reporting **SOP-GEN-007L** for details and definitions.

Some work related illnesses and injuries are considered “recordable”. These events are serious enough to cause an employee to lose consciousness, miss days of work, render him or her incapable of performing their regular job duties, require medical treatment or result in a significant diagnosed injury or illness

Not understanding the criteria for recordable events can result in small injuries being classified as recordable or serious events. Medical professionals not trained in occupational medicine will habitually prescribe medications (recordable) for minor injuries without considering equally effective over the counter alternatives (non-recordable).

It is the HSE Officer’s responsibility to consult with the medical professional to see if a non-recordable option for treatment is appropriate. **However, the employee’s welfare is the priority at all times.** See the following examples.

Recordable (Medical Treatment)	Non-recordable (First Aid)
prescription medications OR over the counter medicines given at prescription strength	over the counter pain medications at regular strength and intervals
an injection of any kind other than tetanus vaccine	tetanus immunization injection
prescription antibiotic ointment	over the counter antibiotic ointment
superglue, staples or stitches to close a wound	butterfly bandages, Steri-Strips® or Band Aids® to close a wound
a plaster cast to stabilize an injury	elastic bandages or wraps to stabilize an injury
applying fluorescent dye in the eye to detect a foreign object or injury	using irrigation, a cotton swab or tweezers to remove a foreign object or material from the eye
giving fluids intravenously for relief of heat stress	drinking fluids for relief of heat stress

Table 1

In addition to the methods described in Table 1, the following treatments are the only other treatments considered first aid according to 29 CFR 1904.7.

First Aid

cleaning, flushing, soaking sounds on the surface of the skin
using hot or cold therapy
drilling a fingernail or toenail to relieve pressure, or draining fluid from a blister
using eye patches
using temporary immobilizing devices while transporting an accident victim
using finger guards
using massages

Table 2

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Common over the counter medications are considered first aid UNLESS the amount taken at one time exceeds the normal dose. Over the counter medication is considered medical treatment if a medical professional gives it as a prescription or recommends it be taken at prescription dosage. See the chart in Table 3 for a guideline to recordable dosages for common medications.

Dosage Chart

Dose= amount taken at one time	Recordable (Medical Treatment)
Common name: Ibuprofen Brand Names: Advil, Motrin	More than 467 mg
Common name: Diphenhydramine Brand Names: Benadryl, Simply Sleep, ZzzQuil, Banophen, AllerMax, Dormin, Genahist, Nytol, Unisom, Sominex	More than 50 mg
Common name: Naproxen Sodium Brand Names: Aleve, Anaprox, Naprelan, Naprosyn, Treximet, Vimovo	More than 220 mg
Common name: Acetaminaphen, Paracetamol Brand Names: Tylenol	more than 1,000 mg
Common name: Ketoprofen Brand Names: Orudus KT, Actron, Orudis, Oruvail	More than 25 mg

Table 3

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SOP-GEN-013B Hazard Communication Program

- 1.0 [Policy](#)
- 2.0 [Purpose](#)
- 3.0 [Responsibility](#)
- 4.0 [References](#)
- 5.0 [Components of Hazard Communication Program](#)
 - 5.1 [Chemicals List](#)
 - 5.2 [Safety Data Sheets \(SDS\)](#)
 - 5.3 [SDS Binder Maintenance](#)
 - 5.4 [Labels and Labeling](#)
 - 5.5 [Unidentified Chemical Procedure](#)
 - 5.6 [Information and Employee Training](#)
 - 5.7 [Non-Routine Work or Tasks](#)
 - 5.8 [Informing Contractors](#)
- 6.0 [Accidental Exposure Procedures](#)

- [Appendix A](#)- NFPA Hazard Identification System
- [Appendix B](#)- Definitions
- [Appendix C](#)- New Global Pictograms
- [Appendix D](#)- New SDS Format

Revision/ Review Log

Revision Date	Approved by	Reviewed by	Revision Details/ Proposal Notes
15 May 2007 Revision #1	Dr. Jim Brooks	HSE Manager: Sue McDonald	
02 December 2010 Revision #2	Dr. Jim Brooks Dr. Bernie Bernard	Dr. Jim Brooks Dr. Bernie Bernard	No changes made
25 April 2013 Revision #3	Dr. Jim Brooks Dr. Bernie Bernard	Dr. Jim Brooks Dr. Bernie Bernard Dr. James Howell	Complete program review and revision. New GHS requirements added.
13 July 2015 Revision #4	Dr. Jim Brooks Mr. Pete Tatro	Dr. Jim Brooks Mr. Pete Tatro Dr. James Howell	Deleted duplicate and unnecessary material, added references.
12 November 2015 Revision #5	Dr. Jim Brooks Mr. Pete Tatro	Dr. Jim Brooks Mr. Pete Tatro Dr. James Howell	Subcontractor section shortened. SDS contents and organization specified, SDS maintenance is responsibility of First Mate.

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1.0 Policy

TDI-Brooks International maintains this written Hazard Communication Program in accordance with OSHA's Hazard Communication Standard 29 CFR 1910.1200.

Under the TDI-Brooks HazCom program, employees will be informed of the contents of the OSHA Hazard Communications standard, the hazardous properties of chemicals with which they work and mitigations to protect themselves from these chemicals.

All shore based facilities and vessels of this company will participate in the Hazard Communication Program. Copies of the Hazard Communication Program are available on the SDS page of the ship web pages and in the front of all SDS binders.

2.0 Purpose

OSHA created the Hazard Communication Standard to ensure that workers in all industries and workplaces understand the chemical hazards to which they are exposed and how to protect themselves from those hazards.

In March 2012 the regulation was revised to align with the new Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This revision emphasizes an employee's "Right to Understand."

It requires employers to provide information to their employees about the hazardous chemicals to which they are exposed by means of a hazard communication program, labels and other forms of warning, safety data sheets and information and training.

3.0 Responsibility

The President of TDI-Brooks International is responsible for encouraging all employees to participate in this program and following its guidelines.

The HSE Manager is responsible for administering this program, providing training for all employees of TDI-Brooks and updating this plan as necessary.

The First Mate is responsible for ensuring that all hazardous materials are handled and stored safely aboard the vessels in accordance to relevant regulations **and that SDS binders are maintained and current.**

Facility Managers will ensure the facilities follow appropriate local and government regulations at TDI facilities.

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Supervisors shall ensure that employees under their supervision comply with this program. Employees are responsible for fully participating in this program as it applies to their work areas and work responsibilities.

4.0 References

- 29 CFR 1910.1200 – OSHA’s Hazard Communication Standard
- 46 CFR 194.15 – Laboratory chemicals on research vessels
- 46 CFR 147 – Hazardous ship stores used to maintain and operate vessel

5.0 Components of Hazard Communication Program

- A list of the hazardous chemicals known to be present in the workplace
- Labels and Labeling of Hazardous Chemicals and Materials Containers
- Safety Data Sheets or SDS’s - formerly Material Safety Data Sheets or MSDS
- Personnel Training and Information
- A written “Hazardous Communication Program”

5.1 Chemicals List

An initial list of all chemicals and materials shall be made for each vessel or facility. The chemical list will be updated as new chemicals are brought into the workplace. A copy of the chemical list will be kept with the SDS’s in a public area accessible to all employees.

It will be the responsibility of the persons ordering or purchasing any new chemicals or products to ensure that the chemical list is updated and that the SDS is added to the SDS book.

*** There is no requirement for audits or inventories- just a list of chemicals present.*

5.2 Safety Data Sheets (SDS)

An SDS will be provided for all chemicals requiring one. The SDSs are available at each facility and on each vessel for all employees to view. The SDS binder is in an easily accessible location and on the ship web pages on the Safety Data Sheets page.

5.3 SDS Binder Maintenance

The First Mate is responsible for ensuring that all SDS binders on the vessel are maintained and updated as needed. Each SDS binder must contain in this order:

- A current copy of this SOP
- List of Chemicals at that specific location
- SDS for each chemical on the List of Chemicals

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The person ordering or purchasing new chemicals is responsible for adding the new SDS to the binder. These should be delivered with the product. If not, most SDSs can be found easily with an Internet search. Inform the HSE Manager if you cannot locate an SDS for a product.

5.4 Labels and Labeling

The chemical manufacturer is required to provide the following information on all containers:

- Product identifier
- Signal word
- Hazard statement(s)
- Pictogram(s)
- Precautionary statement(s)
- Name, address and telephone number of the chemical manufacturer or importer.

The existing labels on incoming containers shall not be removed or defaced. Should it be necessary to replace a label, the new label will contain, at a minimum, the information above.

Any hazardous chemicals and materials that are put into secondary containers (smaller container, spray or squirt bottles) must be labeled with at least:

- **NAME**- The chemical name/ product identifier
- **GENERAL HAZARDS**- Words, pictures, symbols or combinations thereof which provide at least general information regarding the physical and health hazards of the chemical.

5.5 Unidentified Chemical Procedure

If a container label has fallen off or can no longer be read and the substance cannot be identified, the First Mate will isolate the item and arrange for proper disposal.

In US based facilities, contact the HSE Manager to arrange for hazardous waste disposal services.

5.6 Information and Employee Training

All personnel shall be informed of and trained on the “Hazardous Communication Program”/”Right to Understand” at the time of assignment and when a new chemical hazard is introduced to their workplace.

The training program will include the following topics:

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1. Location of written HAZCOM program, SDS, and chemical list
2. Where the chemicals are used and stored
3. How to detect the presence or release of a hazardous chemical in the work areas (fire, smell, fumes, haze, color, irritation)
4. Physical and other hazards associated with the chemicals in the work area
5. Information regarding labels and labeling
6. Description of SDS and how to read the sections
7. The new GHS pictograms and what hazards they represent
8. How to prevent or reduce exposure to hazardous chemicals or materials (proper storage, labels, Personal Protective Equipment (PPE), warnings, training etc.)
9. Accidental Exposure procedures

5.7 Non-Routine Work or Tasks

Periodically, employees may be required to perform non-routine work or tasks requiring the use of hazardous chemicals. **The supervisor of the workers who will perform the work is responsible for conducting a Job Safety Analysis (JSA)** of the task and ensuring that each employee is provided information concerning the chemicals, materials, or exposure potential of the activity.

The JSA will examine risks and hazards of the task and provide information concerning:

- Specific hazards that may be associated with the chemical or material
- Protective measures to be taken
- Measures to minimize or prevent hazard exposure including ventilation, respirators, storage, postings, and Personal Protective Equipment (PPE)
- Review of the chemical SDS or other applicable technical information
- Review any emergency procedures to be taken

***If the addition of the new chemical is a result of a change in procedures, a Management of Change may be required first.*

5.8 Informing Contractors

Contractors working on TDI vessels or facilities must participate in a **Contractor Safety Meeting** before starting work. Among other topics to be covered in this meeting are:

- Any hazardous chemicals to which contractors may be exposed on site
- The location(s) of the safety data sheets
- Location and use of the PPE Matrix, which describes appropriate PPE for routine tasks.

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6.0 Accidental Exposure Procedures

TDI-Brooks will follow Accidental Exposure Procedures when a worker has been accidentally exposed to a chemical through skin contact, inhalation or ingestion. The primary focus is to provide first aid to the worker.

If Accidental Exposure occurs, follow these steps:

- **Stop or minimize exposure.** Remove contaminated clothing. If inhalation exposure, move the person to a well ventilated area
- **Provide first aid** if appropriate. (Section 4 on SDS)
- **Notify the supervisor** as soon as possible
- **Complete the Employee Incident Report Form.** Even if there seems to be no harm done, some reactions are delayed and may not show up for hours.

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Appendix A

The National Fire Protection Association (NFPA) Hazard Identification System

Common NFPA labeled materials on a vessel would be fuel oil, lube oil, diesel fuel, and compressed gasses such as nitrogen, oxygen and acetylene.

A number 0-4 or an abbreviation is added to each square to indicate the hazard severity.

**The higher number
indicates the greater
hazard.**



Rating Summary

Health-Blue

Number	Hazard Code	Description of Hazards
4	Danger	Can be lethal- even with short exposure
3	Warning	Can cause serious or permanent injury
2	Warning	Can cause temporary incapacitation or residual injury
1	Caution	Can be irritating
0		No unusual hazard

Flammability- Red

Number	Hazard Code	Description of Hazards
4	Danger	Highly flammable under normal temperatures
3	Warning	Flammable under most temperatures
2	Caution	Flammable at high temperatures
1	Caution	Must be preheated to burn
0		Will not burn

Reactivity-Yellow

Number	Hazard Code	Description of Hazards
4	Danger	Explosive material at room temperature
3	Danger	May explode if shocked or exposed to high temperature
2	Warning	Violent chemical change at high temperatures or pressures
1	Caution	Normally stable, less stable under higher temperatures
0	Stable	Stable- not reactive

Special-White

Number	Hazard Code	Description of Hazards
W	Danger	Reacts violently if exposed to water
OXY	Danger	Reacts violently if exposed to oxygen

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Appendix B- OSHA HazCom Definitions

Definitions [From 29 CFR 1900.1200(c)]

Chemical means any substance, or mixture of substances.

Chemical name means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard classification.

Common name means any designation or identification such as code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

Container means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

Employee means a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

Employer means a person engaged in a business where chemicals are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor.

Exposure or exposed means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g. accidental or possible) exposure. "Subjected" in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact or absorption.)

Hazard category means the division of criteria within each hazard class, e.g., oral acute toxicity and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class and should not be taken as a comparison of hazard categories more generally.

Hazard class means the nature of the physical or health hazards, e.g., flammable solid, carcinogen, oral acute toxicity.

Hazard statement means a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

Hazardous chemical means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

Health hazard means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.

Immediate use means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

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Label elements means the specified pictogram, hazard statement, signal word and precautionary statement for each hazard class and category.

Mixture means a combination or a solution composed of two or more substances in which they do not react.

Physical hazard means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas. See Appendix B to § 1910.1200—Physical Hazard Criteria.

Pictogram means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category.

Precautionary statement means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling.

Product identifier means the name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written hazard communication program, the label and the SDS.

Pyrophoric gas means a chemical in a gaseous state that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.

Safety data sheet (SDS) means written or printed material concerning a hazardous chemical that is prepared in accordance with paragraph (g) of this section.

Signal word means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are “danger” and “warning.” “Danger” is used for the more severe hazards, while “warning” is used for the less severe.

Substance means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

Work area means a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

Workplace means an establishment, job site, or project, at one geographical location containing one or more work areas.

Appendix C- HCS Pictograms and Hazards

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a

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symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

<p style="text-align: center;">Health Hazard</p>  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<p style="text-align: center;">Flame</p>  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	<p style="text-align: center;">Exclamation Mark</p>  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
<p style="text-align: center;">Gas Cylinder</p>  <ul style="list-style-type: none"> • Gases Under Pressure 	<p style="text-align: center;">Corrosion</p>  <ul style="list-style-type: none"> • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals 	<p style="text-align: center;">Exploding Bomb</p>  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
<p style="text-align: center;">Flame Over Circle</p>  <ul style="list-style-type: none"> • Oxidizers 	<p style="text-align: center;">Environment (Non-Mandatory)</p>  <ul style="list-style-type: none"> • Aquatic Toxicity 	<p style="text-align: center;">Skull and Crossbones</p>  <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

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Appendix D- New Mandatory Safety Data Sheet Format

The GHS regulation requires that all Safety Data Sheets have a standardized format by December 2015. Until then, manufacturers may use their own format or the new format, so you will see both. The new format has 16 sections and is described below.

As of June 1, 2015, the HCS will require the new SDSs to be in a uniform format, and include the section numbers, the headings, and associated information under the headings below:

Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.

Section 3, Composition/ information on ingredients includes information on chemical ingredients; trade secret claims.

Section 4, First-aid measures includes important symptoms/ effects, acute, delayed; required treatment

Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire

Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.

Section 8, Exposure controls/ personal protection lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

Section 9, Physical and chemical properties lists the chemical's characteristics.

Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.

Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Section 12, Ecological information*

Section 13, Disposal considerations*

Section 14, Transport information*

Section 15, Regulatory information*

Section 16, Other information includes the date of preparation or the last revision.

Employers must ensure that SDSs are readily accessible to employees. See Appendix D of 29 CFR 1910.1200 for a detailed description of SDS contents.

Weekly CAR Report

Does this vessel have any open CARs at this time? **NO** **YES** [If yes, complete the CAR Weekly Update below]

NS5 CAR #	Topic	Progress made since last week	Current Status of CAP (Proposed, accepted, implemented, completed)

Safety Cards- Statistics for the week

[Enter number of cards next to appropriate category.]

# of cards	Category (best fit)
	PPE
	Tools and Equipment
	Safety Attitude
	Permit to Work
	Housekeeping
	Body Mechanics (lifting, handling)
	Maintenance/ Inspections
	Procedures
	Pre-Job Inspections
	Communication
	Positive Comment cards

Total # Cards This Week

HSE Key Performance Indicators

#	Meetings/ Trainings/ JSAs/ Inspections
	Safety Meetings (goal is daily)
	Crane Inspections (every time used)
	JSAs conducted (standard or unplanned)
	Permits completed
	Hazard Hunts (goal of 1 per month)
	Lifting gear inspections (goal of 1 per month)
	PPE inspections (goal of 1 per month)
	Contractor Safety Meetings

Any other HSE issues of concern?

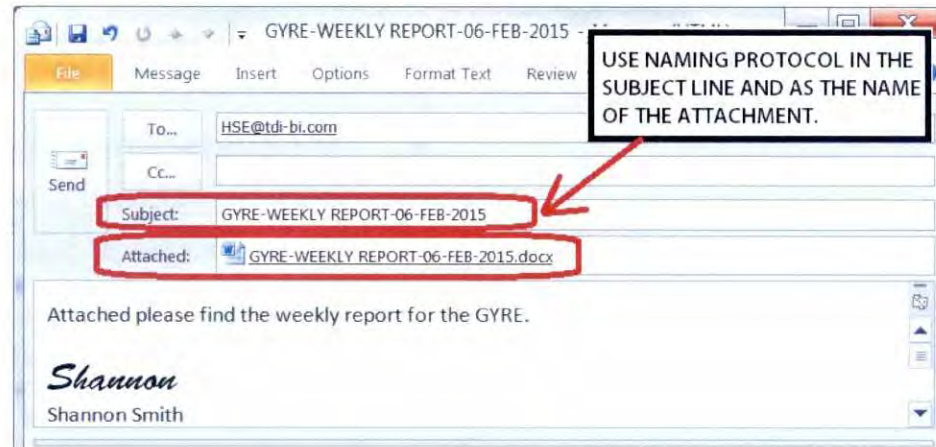


TDI Weekly Report

Date (DD-MON-YYY)	Vessel Name	Printed name of person filing report

Complete this report, scan as **pdf** and **e-mail** to dpa@tdi-bi.com along with scans of the docs below by Friday of each week. Then **file originals on the bridge**.

Naming Protocols: Use the naming protocol for both the name of the file and the subject line of your email. The naming protocol for this Weekly Report is: **BOAT-WEEKLY REPORT-DD-MON-YYYY** Example: The Proteus would use: **PRT-WEEKLY REPORT-19-JAN-2015**



Documents to **include as attachments** with the Weekly Report e-mail:

Report/ Name Protocol	What it is/ Where to find it	What to send
HSE Weekly Meeting BOAT-HSE-DD-MON-YYYY	This is one of the special topics chosen from the ship web page "HSE Toolbox Talks", can be viewing a safety video but still need a sign in sheet.	Sign in sheet only
Galley Weekly Inspection BOAT-GALLEY-DD-MON-YYYY	The form for this is on the ship web pages, "Galley Page" (Food Sanitation Inspection Checklist)	Entire inspection report
CAR Weekly Update	Weekly update on the progress of closing open non-conformities (CARs)	Nothing (report is included in this document)
Safety Card Report	Enter the HSE statistics for your Safety Cards from this week.	Nothing (table is included in this document)