



# **JOSOP 505 – Hazard Communication**

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## 1.0 Purpose, Objectives and Scope

### Purpose

The purpose of this Joint Operations Safe Operating Procedure (JOSOP) is to comply with SA/PZ Hazard Communication OE Process, KPC HSE standards, and State of Kuwait regulatory requirements and international legal requirements pertaining to chemical handling and hazard communication in order to prevent harm to health of employees and contractors handling chemicals as part of Joint Operations, and protect environment. The most stringent of these regulations shall be applied.

### Objectives

The intent of this JOSOP is to:

- (a) Establish a process to obtain, evaluate and communicate up to date and accurate information on physical (e.g. flammable), health (e.g. harmful effect), and environmental hazards associated with chemicals.
- (b) Establish the mandatory requirements pertaining to chemical handling.
- (c) Manage exposure to chemicals in order to prevent adverse effects from occurring to employees and contractors handling chemicals.

### Scope

This JOSOP covers work performed by JO employees and contractors within JO operational control. Both JO and contractor employees are included in Hazard Communication of the concerned divisions.

This JOSOP does not apply to chemicals in totally contained pipelines, gaseous substances emitted from chimney stacks, and chemical transport vehicles during road transportation outside JO sites.

## 2.0 Definitions

**Carcinogen:** A substance capable of producing cancer, mutations of genes resulting in irregular, uncontrollable growth of abnormal cells in humans.

**Chemical:** Any element, chemical compound or mixture of elements and/or compounds. Examples include Catalysts, Corrosion inhibitors, Acids, Alkalis, Anti Foam, Lube Oil etc.

**Chemical manufacturer:** An employer with a workplace where chemical(s) are produced for use or distribution.

**Chemical name:** 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 which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

**Combustible liquid:** Any liquid having a flashpoint at or above 100 deg. F (37.8 deg. C) Combustible liquids shall be classified in accordance with the following:

- (1) Class II Liquid — any liquid that has a flash point at or above 100°F (37.8°C) and below 140°F (60°C)
- (2) Class III Liquid — any liquid that has a flash point at or above 140°F (60°C)
  - (a) Class IIIA Liquid—any liquid that has a flash point at or above 140°F (60°C), but below 200°F (93°C)
  - (b) Class IIIB Liquid—any liquid that has a flash point at or above 200°F (93°C)

**Common name:** 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.

**Compressed gas:** Means:

- (i) A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 deg. F (21.1 deg. C); or
- (ii) A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 deg. F (54.4 deg. C) regardless of the pressure at 70 deg. F (21.1 deg. C); or
- (iii) A liquid having a vapor pressure exceeding 40 psi at 100 deg. F (37.8 deg. C) as determined by ASTM D-323-72.

**Container:** It 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 SOP, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

**Corrosive:** Liquids, gases or solids that can destroy human skin tissue, severely corrode steel or materials.

**Dangerous/Hazardous chemical:** A substance, preparation, material or article which is categorized for transportation/handling as follows:

- a. **Physico-chemical Hazards:** explosive, oxidizing, flammable.
- b. **Health effects (Health hazard):** toxic, harmful, corrosive, irritant, sensitizing, carcinogenic, mutagenic, reproductive toxin.
- c. **Dangerous for the environment.**

**Environmental hazard:** Means something with the potential to cause harm to the environment.

**Environmental/ Occupational risk:** Expresses the likelihood that harm from a particular environmental/occupational hazard is realized. Risk covers the population or work force, which might be affected by the risk. Risk is the product of the likelihood that harm will occur and its severity.

**Explosive:** Means a chemical that causes a sudden, almost instantaneous release of pressure, gas and heat when subjected to sudden shock, pressure, or high temperature.

**Flammable gas:** Gas that, at ambient temperature and pressure, forms a flammable mixture with air or oxygen within lower and upper explosive limits.

**Flammable Liquid:** Liquid having a flash point below 100 deg F (37.8 deg. C).

Classification of flammable liquids:

- (1) Class IA Liquid —any liquid that has a flash point below 73°F (22.8°C) and a boiling point below 100°F (37.8°C).

- (2) Class IB Liquid —any liquid that has a flash point below 73°F (22.8°C) and a boiling point at or above 100°F (37.8°C)
- (3) Class IC Liquid — any liquid that has a flash point at or above 73°F (22.8°C), but below 100°F (37.8°).

**Flammable Solid:** Any solid material other than an explosive which is liable to cause fire or retain heat or can be ignited readily.

**Flash point:** Minimum temperature at which flammable gas or vapor in air will momentarily flash when source of ignition is introduced.

**Hazardous Chemical:** Any chemical that is a physical hazard, health hazard or environmental hazard.

**Hazard Warning:** Means any words, pictures, symbols, or combination thereof appearing on a label or other form of warning that is based on regulatory guidance or experience. Hazard warning conveys the specific physical, health, and/or environmental hazard(s) including target organ effects of the chemical(s) in the chemical(s) in the container(s) or at point of use.

**Health hazard:** Means a chemical that can cause acute or chronic health effects in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

**Label:** Means any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

**Lower Explosive Limit (LLE):** Minimum concentration of vapor or gas in air, which will burn when a source of ignition (spark) is introduced.

**Material safety data sheets (MSDS):** Organized basic hazard information on individual chemicals for risk appraisal and instruction of personnel in an internationally agreed on format. 16 sections are defined for the listing of properties of products and other material including toxicological, ecological, physical, flammability and regulatory requirements and emergency and disposal measures.

**Mutagen:** A substance capable of inducing genetic change which when transmitted to an offspring can result in heritable variation.

**Occupational Exposure Limit (OEL) or Threshold Limit Value (TLV):** Refers to airborne concentration of chemical substance to which nearly all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse health effects.

**Organic peroxide:** Means an organic compound that contains the bivalent -O-O-structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

**Oxidizers:** Are chemicals that contain large amounts of chemically bound oxygen that is easily released, especially when heated, and that will initiate or promote burning of combustible material.

**Personal Protective Equipment (PPE):** Means all equipment and clothing which is intended to be worn by a person at work and which affords protection against one or more risks to health or safety. PPE include, coverall, aprons, gloves, footwear, safety helmets, eye protectors, hearing protectors, safety harnesses, respirators, life jackets and intrinsically safe flashlights.

**Physical/ Reactivity Hazards:** A product/ chemical for which there is valid evidence that it meets criteria for explosives, oxidizers, highly flammable liquids and solids, flammable or combustible liquids, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive), or water- reactive.

**Preparation:** Means mixtures or solutions of two or more chemical substances

**Pyrophoric:** Means a chemical that will ignite spontaneously in air at a temperature of 130 deg. F (54.4 deg. C) or below.

**Reprotoxic Substances:** A substance capable of producing irregularities in the reproductive system of either gender, the growth of a fetus (teratogenic) and children. This includes the lactation period.

**Sensitizer:** Substances which can induce changes in the respiratory system, skin or other organ in the body. Once these changes have taken place, further exposure to the substance, sometimes to very small quantities causes the symptoms to return.

**Substance:** Any natural or artificial substance whether in solid, liquid or gaseous form or in the form of a gas or vapor including micro organisms.

**Teratogen:** A substance that can induce non-heredity genetic damage in a developing fetus.

**Threshold Limit Value-Time Weighted Average (TLV-TWA):** Average Airborne concentration of chemical substance for 8-hour workday and a 40-hour workweek to which nearly all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse health effect.

**Threshold Limit Value-Short Term Exposure Limit (TLV-STEL):** Average Airborne concentration for exposure to a chemical up to 15 minutes, no more than 4 times a day with a gap of one hour between two exposures a day, which cause no adverse health effects to workers.

**Threshold Limit Value-Ceiling (TLV-C):** Airborne concentration that should not be exceeded during any part of the working exposure.

## 3.0 Requirements

### 3.1.0 Product Acceptance Procedure for New Chemicals

- 3.1.1 User/ Originator (Person who wants to introduce a new chemical in a work location in JO) shall complete “Product Acceptance Evaluation Form” (PAEF) (Appendix A), to ensure ascertaining of hazards, introduction of safer chemicals, maintaining inventories and MSDS, safe handling of chemicals, control measures, waste management, and training.
- 3.1.2 The form, duly signed by User/ Originator and Superintendent of originating division, shall be submitted to the Superintendent of the EH&S division, with MSDS in internationally agreed 16 part ISO format (Appendix B) for review and approval
- 3.1.3 Industrial Hygienist/ EHS Specialist in EH&S division shall review PAEF and MSDS using the following criteria:
  - Review health, safety and environment hazards and assess risks.
  - Look at the less hazardous alternatives available. Substances or preparations that contain substances, that are classified as carcinogens, teratogens, mutagens, or sensitizers must not be introduced unless no suitable alternatives can be found. Handling of these chemicals must be strictly controlled. Health and hygiene surveillance is required for persons handling these chemicals. If MSDs does not provide a adequate information, clarification must be sought from manufacturer/ supplier. In case the manufacturer claims that a certain substance or substance in a preparation is a trade secret, information may be sought as per guidelines provided in OSHA 29 CFR 1910.1200 (i).
  - Review Safe handling precautions, including use of PPE.
  - Review Spill management and Emergency response
  - Review Waste handling and disposal.
- 3.1.4 If deemed necessary, Industrial Hygienist will get PAEF reviewed from Sr. Environment Engineer for harm to environment and adequacy of waste handling and disposal.
- 3.1.5 Superintendent EH&S shall either approve or approve subject to conditions, or reject PAEF, and notify to Superintendent of Originating division.
- 3.1.6 The originator shall prepare a purchase requisition for a new chemical after it is approved by Superintendent EH&S, and include in the purchase request description that PAEF is approved, and attach PAEF and MSDS.
- 3.1.7 Purchasing division shall ensure that request for quote for new chemical purchases are released only after it receives a copy of PAEF approved by EH&S from Superintendent of originating division.
- 3.1.8 Purchasing division shall include in the purchase order that Supplier shall provide a copy of the latest MSDS to Purchasing and Warehouse prior to delivery of chemical.
- 3.1.9 Warehouse division shall make sure that MSDS is received prior to delivery of chemical. Warehouse division must forward an electronic copy of MSDS to HAZOM Process Advisor (Industrial Hygienist) in EH&S Division.
- 3.1.10 HAZCOM Process Advisor shall forward name of the new chemical product and its MSDS to the concerned engineer in OE and Base Business section in Facility Engineering, who should display it on JO website for MSDS, and inform Superintendent of the concerned division, with a copy to HAZCOM Process Advisor, to: (a) include it in division’s Chemical Inventory and MSDS folder, and (b) let employees know about its availability and where and how to access it.
- 3.1.11 Contractor wanting to bring a new chemical must submit PAEF and MSDS to Superintendent EH&S through Contract Owner/ Superintendent, and obtain necessary approval. Contractor shall introduce new chemical in JO only after getting approval of PAEF from Superintendent EH&S,

and providing training to employees.

### 3.2.0 Chemical Inventory and Management of MSDS

- 3.2.1 MSDS provides basic information on individual chemicals to identify hazards and assess risk, control exposures, protect workers and the environment, and plan and provide adequate emergency response in case of spill, fire/ explosion.
- 3.2.2 MSDS shall be in internationally agreed 16-section format of ISO 11014-1 / UNGHS/ ANSI Z400.1-1998/ EU Directive 91/115/EEC (Appendix B). However sequence of sections may vary slightly.
- 3.2.3 Each division shall maintain an inventory of chemicals and a binder with all current MSDS of chemicals used, stored or handled within the division. Inventory must be continuously updated. Laboratory must maintain a list and MSDS of chemicals used in the laboratory and chemicals received for analysis.  
MSDS is not required for cleaning agents, detergents, soap, ink, and materials used for human consumption, if used in a normal manner. MSDS is required for pesticides.
- 3.2.4 Division/ Area custodian must ensure that updated MSDS in a binder (hard copy) and on a computer terminal with access to MSDS database on intranet, are readily accessible to personnel in the field (site where chemicals are used), and to site emergency response personnel such as firefighters and medical staff.
- 3.2.5 The supplier of chemical shall provide updated version of MSDS to Purchasing and Warehouse at the time of supply of each batch of chemicals, and immediately when ever significant revision/ changes have been done by manufacturer to MSDS but at least annually. Purchasing division shall include this requirement in the purchase order/ terms and conditions.
- 3.2.6 Warehouse division shall forward the updated electronic copy of MSDS by e-mail to HAZCOM Process Advisor (Industrial Hygienist) who in turn shall forward it to the concerned engineer in OE and Base Business section in Facility Engineering, for displaying it on JO website for MSDS, and informing Superintendent of the concerned division, with a copy to HAZCOM Process Advisor. Both JO website for MSDS and division MSDS folder shall be updated at the earliest and no later than 45 days of receipt of the copy of MSDS.
- 3.2.7 HAZOM Process Advisor (Industrial Hygienist) shall periodically review all MSDS to confirm that they are up-to-date. HAZOM Process Advisor (Industrial Hygienist) shall communicate names of chemicals that are carcinogens, teratogens, mutagens, and sensitizers, available in divisions to respective division Superintendents, with a request to identify suitable alternate safer chemicals, and if feasible replace the chemical with alternate safer chemical. Mixture shall be assumed to present the same health hazards as the components if they comprise 1% or more of the mixture, except that the mixture shall be assumed to present carcinogenic hazard if it contains a component considered to be a carcinogen, in concentration of 0.1% or greater.

### 3.3.0 Storage of Chemicals

- 3.3.1 Requirements on specifications of warehouse for storage of chemicals, and storage conditions mentioned in Article 18 of the Kuwait EPA regulation and section 7 of MSDS shall be complied.
- 3.3.2 Storage areas must be designated as no smoking and should be free from source of ignition. Eating and drinking should also be prohibited.
- 3.3.3 Substances of different hazard classes (Reference UN Classification system–Appendix 10-1 of Kuwait EPA) must not be stored together. Separation distance between different classes of dangerous materials given in the matrix of [Article 18 of the Kuwait EPA regulation](#) shall be complied. The following rules shall apply:
- Flammable substances must not be stored with any other class of hazardous substances.

- Highly flammable liquids (HFL) must be stored in suitable closed vessels kept in a safe position, either in the open air or in an area or store of fire resisting structure in a work room. All containers, bins and cupboard must be clearly marked “ Highly Flammable Liquid”. Small quantities of HFL, not exceeding 50 liters, may be kept in a workroom or laboratory, provided they are contained in closed vessels in areas of fire resisting structure and have secondary containment.
  - Explosives must not be stored in close proximity to any other class of hazardous substance.
  - Toxic substances must not be stored with other classes of substances except harmful and irritant substances.
  - Chemicals in containers greater than 25 liters must be stored in secondary containment facilities to prevent spillage that may results in environmental damage. Containment must be at least 110% of the largest volume container.
  - Guidance on storage of specific chemical shall be obtained from MSDS of that chemical.
  - Warehouse/ Storage facilities must be inspected to ensure that their integrity is maintained.
- 3.3.4 Packages should be stored on shelves or height of a stack should not exceed 3 meters. Material should be lined up in way that does not hinder material handling or emergency equipment.
- 3.3.5 Workers must wear appropriate PPE.

### **50602 Packaging and Labeling of Chemicals**

- 3.4.1 Chemicals and preparations must be supplied, purchased, received, or kept in a package, which (a) must not allow the contents to escape when subject to normal handling, (b) must not be adversely affected by the contents, (c) ensure any replaceable enclosures fitted must be able to be used repeatedly, without contents escaping, (d) should not be used for foodstuff or drink.
- 3.4.2 Labeling of primary containers: Chemicals are received from the manufacturers in primary containers. Primary Container/package containing chemical must carry a label which appear uppermost/ prominently displayed. Labels shall be in English. In addition, labels in Arabic or in a language understandable to the person handling the chemical shall be utilized where provided. Label should contain the following information:
- Name of the substance or trade name of the preparation.
  - Names of the constituents, if preparation.
  - Indication of danger, protection needed and appropriate hazard warning symbols in black on orange background (European union, Australia), as in [Appendix 10 of Kuwait EPA regulations](#), or the EU Dangerous Goods Directives, ADR, IMO, IATA.
  - Risk and safety phrases if applicable, as in the EU.
  - Name and contact details of the chemical manufacturer, supplier, or other responsible person.
- 3.4.3 Labeling of secondary containers: As far as possible, chemicals should be allowed to remain in containers received from the manufacturer (primary container) till the chemical is exhausted. In certain situations, the chemical can be transferred from primary container to an empty container (secondary container), e.g., in the laboratory, for further use. Labeling of a secondary container is not mandatory if the following conditions are met: (a) secondary container is used immediately by one person, (b) secondary container is under the positive control of the user who performs the transfer, and (c) the use is restricted to one shift. Secondary container should carry a label or the following information, if it is used by more than one person or left unattended, or if it used for more than one shift. The label should include: (a) identity of the chemical, and (b) appropriate hazard warning sign in the form of word, picture or symbol.
- 3.4.4 In-plant labeling of containers: In-plant chemical containers like storage tanks and barrels must be labeled with a name traceable to its contents and MSDS. Labeling must comply with local and

international regulations. For materials from third parties it is the responsibility of the importer or local producer to apply nationally acceptable labels. The label must include appropriate hazard warnings (e.g., NFPA codes or Kuwait EPA).

**3.5.0 Transporting Primary Chemical Containers within JO:** Drivers and other persons transporting and handling chemical containers within JO shall receive training in HAZCOM. The necessary PPE and training in the use of PPE shall be provided to them. Containers should have appropriate labels and MSDS. In case of emergency, ECCC shall be contacted. Supervisor responsible for the transport shall ensure the above requirements.

**3.6.0 Standard Operating Procedures/ Written Work Practices:** The group which uses hazardous chemical/s shall develop and implement Standard Operating Procedures/ Written Safe Work Procedures specific to chemical/s describing chemical hazards, risk assessment, hazard control measures, PPE, compliance with local regulations, storage of chemicals, emergency preparedness, decontamination procedure including waste disposal. MSDS and JOSOP-505 can be utilized to prepare the procedure. The procedure should be reviewed at least annually or earlier if legislative or other requirements change.

### **3.7.0 Monitoring exposure in the workplace**

- 3.7.1 Whenever a task is planned that involves use, handling or contact with chemical/s Qualitative Risk Assessment must be carried out prior to start of the work, as part of Job Safety Analysis, to identify and ascertain the likelihood of hazards to health, safety and environment. MSDS can be used to anticipate possible hazards.
- 3.7.2 If qualitative risk assessment indicates that occupational exposure limits are likely to be exceeded, then personal exposure monitoring must be done to quantify the levels in work environment and institute the control measures to avoid harm to health of those exposed, as given in Occupational Hygiene Operational Excellence Process.
- 3.7.3 If a substance presents a risk to health or environment, the risk must be controlled and compliance to regulatory occupational exposure limits and international protocols on the subject achieved, by the hierarchy of controls:
- preventing exposure/ release by elimination, substitution, or appropriate plant and process control such as enclosure or containment.
  - controlling exposure by using local exhaust ventilation system or reducing the time each employee spends handling the substance.
  - protecting against exposure by the use of appropriate personal protective equipment (PPE), when all other measures do not provide adequate control and can't reduce exposure below the applicable regulatory occupational exposure limit. Superintendent Division/ Contract Owner must ensure PPE is (a) suitable and correct for the particular chemical and the task, (b) it is without defect and in good condition, and (c) it is used properly.
- 3.7.4 Superintendent Division/ Contract Owner must ensure that control equipment provided is properly used and maintained in good condition by regular examination and testing. The results of testing must be recorded.
- 3.7.5 Employees must receive information on hazards associated with the chemicals and control measures. Supervisor must review applicable Standard Operating Procedure and must make appropriate PPE available to the employees including drivers of vehicles transporting chemicals within the JO.
- 3.7.6 Supervisor must review emergency preparedness with the employees and ensure the necessary supplies and equipment for emergency response are available. Employees must know the location of safety equipment such as eye wash fountain, emergency shower, fire extinguisher, fire alarm,

and emergency phone numbers.

- 3.7.7 Employees and contractors should know requirements of MSDS and location of MSDS, risk assessment, and cooperate with the management to safeguard their health and safety and protect the environment.

### **3.8.0 Health Surveillance**

- 3.8.1 Health (Medical) surveillance of employees exposed to chemicals that could cause long term chronic health effects shall be carried out to detect excess absorption and harmful effects at an early stage in order to prevent further harm and restore health of the affected employees, as laid down in [Appendix No. 3.2 Kuwait EPA Regulation](#), Kuwait Ministerial Resolution No. 17 of 1973 on Occupational and Industrial Diseases (Ministry of Social Affairs and Labor), Chevron Global Medical Surveillance Standards and relevant OSHA 29 CFR 1910 standards. Medical surveillance is required if personal exposure of a group of employees (Similar Exposure Group) exceeds 50% of Occupational Exposure Limit, or if the employee was acutely exposed as in spill or leak, or if develops symptoms/ signs that can be caused by a hazardous chemical to which the employee was exposed.
- 3.8.2 Personal medical records shall be kept for all persons/ employees who undergo medical surveillance and these records should include data on exposure to harmful agents.
- 3.8.3 Personal medical records should be kept confidential in medical section. However, data on work related exposure and resulting relevant biological monitoring records and harmful effects can be communicated to employee and his immediate supervisor and Superintendent, and Industrial Hygienist.
- 3.8.4 Medical assistance must be made available to treat the symptoms/ disease.

### **3.9.0 Emergency Preparedness**

- 3.9.1 Emergency eye wash fountains and safety showers must be available within a reasonable walking distance of a person, if there is a possibility of his/her eyes or body part getting exposed to corrosive, toxic or flammable substance. The path of walk shall be free of obstruction.
- 3.9.2 MSDS must be available for emergency responders at a place/s not affected by emergency.
- 3.9.3 Spill cleanup equipment including appropriate PPE must be provided according to spill clean-up procedures and dedicated personnel must be trained in the use of PPE and rescue. Relevant MSDS shall be referred to in preparing spill response plan including spill kits and PPE required.
- 3.9.4 Emergency responders shall practice typical emergency scenarios periodically.
- 3.9.5 Catch basins/ tanks must be sufficiently big to hold 2 hours of water for fire fighting.

**3.10.0 Guidelines on chemical waste management:** Waste management shall be based on the principle of waste minimization, and follow waste management hierarchy of source reduction, re-use, recycling/recovery and disposal. Requirements on waste management shall be referred for details.

**3.11.0 Third Party obligations:** Companies that purchase JO products or hired by JO to transport its products (e.g. crude oil, condensate, sulphur) shall be provided with updated information on hazards, handling and protection measures for each of those products. The information can be in the form of MSDS, and other means as appropriate. For major contracts, the information shall be provided by the Products Group. For contracts handled by the Field Operations, the field representative of JO shall provide the information to contractor company representative.

**3.12.0 Contractor HAZCOM:** This SOP is applicable to all JO contractors whose employees handle chemicals as part of JO operations. The contractor must follow all the requirements.

- Before allowing contractor to start work in JO, contact owner must ensure that contractor /subcontractor provides list of chemicals, MSDS, information regarding hazards, and protection measures for the chemicals that the contractor plans to bring on site to the concerned JO division, to permit review of the hazards and appropriate control measures. The concerned division shall ensure that HAZCOM Process Advisor (Industrial Hygienist) is provided a copy for master file.
- Contractor wanting to bring a new chemical must submit PAEF and MSDS to Superintendent EH&S through Contract Custodian/ Superintendent, and obtain necessary approval. Contractor shall introduce new chemical in JO only after getting approval of PAEF from Superintendent EH&S, and providing training to employees.
- Contractor must ensure that all chemical containers carry proper labels and are stored properly, as mentioned in this document.
- Contract owner shall ensure contractor employees receive orientation on JO chemicals that contractor employees handle or likely to affect them, location of chemicals in the work area, location of MSDS, and handling and protection measures to prevent exposure.
- Contract owner must ensure that Safety Engineer of contractor and key contractor employees receive training in HAZCOM O/E Process and JOSOP 505 provided by JO. It includes the requirements for regulatory compliance and the consequences of deviation.
- Contract owner shall ensure that the contractor safety engineer/ contractor supervisor provides HAZCOM training to their employees whose work entails handling of chemicals. The training should be initially (including new personnel before initial assignment, personnel transferred to new assignment, and before handling any new chemical) and annually thereafter. The outline of training shall be similar to HAZCOM training for JO employees. However the list of chemicals and hazards should be specific for the contractor employees. Training must be documented, including dates and names of personnel.

## 4.0 Roles, Responsibilities and Training Requirements

### 4.1 Roles and Responsibilities:

JO-EHS Superintendent is designated as HAZCOM Process Sponsor and owner of this JOSOP. He will ensure elements of JOSOP 505 are implemented as designed. He is accountable for progress on the Continual Improvement Plan.

JO-Industrial Hygienist is designated as HAZCOM Process Advisor to coordinate and lead implementation of JOSOP 505. He will control JOSOP 505 HAZCOM Process documentation records. He will provide subject matter expertise, contact regulating bodies and legal department to seek information on regulations, audit SA/PZ against implementation plans and process requirements, and develop continual improvement plans.

Line management in divisions that purchase, store, handle or deliver chemicals is responsible to implement requirements applicable to them. Details of responsibilities are given in Responsibilities chart (Appendix -C).

### 4.2 Training and Communication requirements

#### 4.2.1 Professional training and training in HAZCOM O/E Process and JOSOP 505 :

Each division of JO must be familiar with this document in order to understand the legal requirements to conduct its business.

Management must define the level of experience, training and competency necessary to ensure that the health, safety and the surrounding environment of those employees handling chemicals is not compromised. Formal training programs for initial training and refresher training must be in

place for appropriate supervisory and non-supervisory personnel whose employees require chemical handling. It should include training in HAZCOM O/E Process and JOSOP 505. A formal method to certify job knowledge must be part of the training program. Refresher and supplementary training must be provided at least every 3 years. Individual records should show satisfactory completion and date of completion of initial and subsequent training. Training records must be maintained and accessible. Contract owner must ensure that any contractor whose work entails the handling of chemicals receive appropriate training including HAZCOM O/E Process and JOSOP 505.

#### 4.2.2 Chemical Hazard Communication (HAZCOM) Training:

Employees handling chemicals should receive HAZCOM training initially (including new personnel before initial assignment, personnel transferred to new assignment, and before handling any new chemical) and annually thereafter. The training should include:

- Chemicals used/handled on site or manufactured in large quantity and to which there is significant potential for exposure, and their location. Onsite chemical hazards to which employees may be exposed including chemicals considered known or probable carcinogenic, reproductive, developmental or germ cell mutagenic hazard, sensitizers, asphyxiants, flammable, and chemicals released from paint (e.g. solvents), welding (constituents of welding fumes) or insulation (e.g. asbestos if present). It may be appropriate to conduct training by categories of chemicals (e.g. corrosives, solvents, asphyxiants, etc)
- Routes of exposure, including basic toxicology.
- Symptoms and signs of chemical presence.
- Exposure monitoring and medical surveillance where applicable.
- Site inventory and MSDS, and how to read MSDS and where to find them.
- Purchase control and approval for new chemicals.
- Labeling of containers and storage of chemicals.
- Work place specific information including safe work practice, mandatory requirements, control measures including selection and proper use of PPE, and personnel responsibility for adhering to procedures, e.g. using PPE and safety precautions.
- Emergency procedures related to the chemicals discussed.
- Waste disposal procedures

Any combination of oral, written, individual, and/ group training can be used. Training can be conducted by a trained and experienced person such as Supervisor or Safety engineer of employees handling chemicals, Instructor in Training Cell, EHS staff, or it can be entirely computer-based. Computer based training should include name of a person to whom learners can ask questions. Training should include test. Training material should be updated at least every 3 years. However, significant new information received, e.g. new carcinogenic classification, must be incorporated into training immediately. Tests should be updated every year.

HAZCOM training must be documented, including dates and names of personnel. Awareness programs (including campaign or safety talk) on HAZCOM or on usage of MSDS can be arranged by the concerned division or Contract owner.

#### 5.0 Records

Each division in JO shall maintain auditable records to document its compliance with applicable clauses of this document. Records must be retrievable and protected against damage or loss. Training records must be retained for 5 years and purchase records must be retained as per Purchasing division's policy requirements. Exposure assessment and Health surveillance

records shall be retained as per Chevron SA/PNZ Hazard Communication OE Process.

## 6.0 Audit Requirements

Hazard communication must be audited as a part of JO First Party audits and the KPC second part HSE audit system. Each division in JO must establish and maintain a system for auditing compliance against this document. Audit findings must be documented and a system established to ensure that findings are appropriately addressed. JO First Party audits of divisions in compliance to the requirements of this document will be carried out annually by HAZCOM O/E Process Advisor (Industrial Hygienist) and/ Safety Engineers.

## 7.0 References

- KPC HSE Standard 19: Chemical handling.
- KPC HSE Standard 40: Chemical Hazard Communications.
- [Kuwait EPA Regulations Implemented under Law No.21 of 1995 as amended by Law No.16](#)
- ISO 11014-1 Safety Data Sheet for Chemical Products
- [GHS Classification and labeling of Chemicals](#)
- NFPA 30: Flammable and Combustible Liquids Code – 2008
- [OSHA. 29 CFR 1910.1200 Hazard Communication](#)
- [OSHA. 29 CFR 1910. Subpart Z. Toxic and Hazardous Substances](#)
- [Hazard Communication Operational Excellence Process May 2010](#)
- [Occupational Hygiene Operational Excellence Process Feb 2010](#)

## 8.0 Other Guidance Documents

- [Managing Safe Work](#)
- [CHESM](#)
- [Risk Management](#)
- [Emergency Management](#)
- [Fitness for Duty](#)
- [Management of Change –Facilities \(MOC\)](#)

## 9.0 Document Control and Document Management

- JOSOP shall be reviewed/ endorsed by JO Operational Excellence Leadership Team (OELT) and approved by the General Manager.
- The latest approved version of this JOSOP shall be maintained on JO Intranet.
- If an employee does not have access to the JO Intranet, the supervisor is responsible for providing a hard copy of the latest revision of this document upon request by the employee.
- This document will be reviewed and revised every 3 years from the date of issue, or earlier if work conditions or regulatory requirements change.
- JOSOP validity can be extended for another term if work conditions or regulatory requirements have not changed within the validity period. The JOSOP shall be endorsed on the cover page.
- Deviation from this document requirement must be authorized by the General Manager JO after consultation with Superintendent EH&S division and legal department, and after obtaining no objection from KPC OH Committee. Deviations must be documented, and the documentation must include the relevant facts supporting the deviation decision. Deviation authorization must be reviewed periodically and no less frequently than every 3 years.

**Document Control Information**

Description	SAC Version	JO-Version
Approval Date	30 Sept. 2009	
Next Revision Due		
Control Number	2.0	2.1

**Table 1: Document History**

Version Number	Date	Notes
1.0	XX	Initial SAC Release
2.0	30 Sept. 2009	Second SAC Release
2.1	23 March 2011	JO Version Release

## Appendix-A Product Acceptance Evaluation Form (PAEF)

Person responsible for introducing a New Chemical on-site (user) shall fill this form; get it approved from his Superintendent, and send it to Superintendent EHS, along with manufacturer supplied MSDS, for review and approval. This form will be used by EHS to evaluate the evaluate risks, approve safer chemicals, and ensure availability of proper control measures including training, handling, emergency response, and waste disposal of products proposed for use.			
Person responsible for introducing chemical on-site (user):			
Contact number:			
Product name:			
Chemical name/ Generic Chemical Group:			
Area/ Unit where chemical will be used?			
Is it a replacement of existing chemical: Yes <input type="checkbox"/> / No <input type="checkbox"/> If yes, Name the existing chemical that will be replaced?			
Is it less hazardous or more hazardous than the existing chemical?			
Is there any alternate chemical available which is less hazardous?			
Justification:			
Maximum quantity that will be brought on-site?			
Approximate quantity that will be used per day?			
Containers (Type and capacity):			
What are labeling requirements of containers?			
Where will be containers stored?			
Method of use of chemical? (For example, refilling will be done from containers by hand or pump).			
Describe in brief, risk control measures proposed to be implemented? Engineering controls, Safe handling procedure, PPE, Training			
Write job title, and number of JO employees who will handle the chemical per shift?			
Write job title, and number of contractor employees who will handle the chemical per shift?			
Spill management, and Emergency Response?			
Will any waste streams be created (including container)? How will be waste handled and disposed?			
	Name	Signature and Date	Remarks of Industrial Hygienist:
User (Originator)			
Superintendent Originating Division			
Reviewed by Industrial Hygienist			Remarks of Superintendent EHS
Superintendent EHS			

**Appendix-B**  
**Shell Omala Oils HD 68, 100, 150, 220, 320, 460, 680, 1000**  
**(MSDS Example)**

**MATERIAL SAFETY DATA SHEET**

Revision date: 16.01.2010

**Shell Omala Oils HD 68, 100, 150, 220, 320, 460, 680, 1000**

**1. PRODUCT AND COMPANY**

TRADE NAME:	Shell Omala Oils HD 68, 100, 150, 220, 320, 460, 680, 1000	APPROVED:	
CHEMICAL NAME:		RECEIPT NO:	
FORMULA:		ARTICLE NO:	1081
SYNONYMS:		EC-NO:	
INDEX NO:		CAS NO:	
GROUP:	Lubricant	PR.NO:	Not obliged
SUPPLIER:	A/S Norske Shell Postboks 1154 Sentrum 0107 Oslo Tlf: 22665000 Fax: 22665148		
TOXIC INFORMATION:	22591300	EMERGENCY PHONE:	22665000
RESPONSIBLE:	Marit Soleim		
AUTHOR:	Teknologisk Institutt v/ Jan Christiansen		
APPLICATION:	Synthetic gear oils.		
MORE INFORMATION:	E-mail Marit.Soleim@shell.com Website <a href="http://www.shell.no/hms">http://www.shell.no/hms</a> Enterprise no. 973102982		

**2. COMPOSITION**

COMPOSITION	CAS-NO	EC-NO	% CONC.	CH	CF	CE	R-phrases	NOTE
Additives			10-30	NC				
poly-alpha-olefines	-	-	60-100	NC				

EXPLANATION:

CF/CH/CE=Classification fire/-health/-environment, Tx=Very Toxic, T=Toxic, C=Corrosive, Xn=Harmful, Xi=Irritating, IK=No classification required, E=Explosive, O=Oxidizing, Fx=Extremely flammable, F=Highly flammable, N=Danger for environment, M=Genotoxic, A=Sensitisation, K=Carcinogen, R=Causes birth defects.

COMPOSITION COMMENTS:

None of the additives are classified, or the amount of additives in the product is below the limit for contribution. On the basis of available information, the components of this preparation are not expected to impart hazardous properties to this product.

**3. HAZARDS IDENTIFICATION**

HEALTH HAZARD:

No specific hazards under normal use conditions. Prolonged or repeated exposure may give rise to dermatitis. Used oil may contain harmful impurities.

Safety aspects:

Not classified as flammable, but will burn.

Environmental danger:

Not readily biodegradable. Expected to be accumulating in nature.

Not classified as dangerous for supply or conveyance.

#### **4. FIRST AID MEASURES**

##### GENERAL:

Symptoms and effects: Not expected to give rise to an acute hazard under normal conditions of use.

##### INHALATION:

In the unlikely event of dizziness or nausea, remove casualty to fresh air. If symptoms persist, obtain medical attention.

##### SKIN CONTACT:

Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention.

##### EYE CONTACT:

Wash the eye with large amounts of water. Contact a doctor if the irritation lasts.

##### INGESTION:

DO NOT INDUCE VOMITING. Wash out mouth with water and obtain medical attention.

##### INFORMATION TO HEALTH PERSONEL:

Symptomatic treatment. Aspiration into the lungs may cause chemical pneumonitis. Dermatitis may result from prolonged or repeated exposure.

#### **5. FIRE FIGHTING MEASURES**

##### SUITABLE EXTINGUISH MEDIA:

Foam and dry chemical powder. Carbon dioxide, sand or earth may be used for small fires only.

UNSUITABLE EXTINGUISH MEDIA: Water in a jet.

##### FIRE AND EXPLOSION HAZARDS:

Combustion is likely to give rise to a complex mixture of gases and airborne particulates, including carbon monoxide and unidentified organic and inorganic compounds.

##### PERSONAL PROTECTION WHEN FIREFIGHTING:

Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

#### **6. ACCIDENTAL RELEASE MEASURES**

##### PERSONAL PRECAUTIONS:

Wear protective clothing specified for normal operations (see Section 8).

##### ENVIRONMENTAL PRECAUTIONS:

Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Keep the authorities informed if this cannot be prevented.

##### CLEANING MEASURES:

###### Small waste:

Absorb liquid with sand or earth. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.

###### Large waste:

Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. As for small spills.

**MORE INFORMATION:**

Observe all relevant local regulations. See Section 13 for information on disposal.

**7. HANDLING AND STORAGE**

**HANDLING:**

When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Prevent spillages. Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

**STORAGE:**

Keep in a cool, dry, well-ventilated place. Avoid direct sunlight, heat sources, and strong oxidizing agents. Use properly labeled and closable containers.

Storing temperature: 0 °C Minimum. 50 °C Maximum.

**Recommended materials:**

For containers, use: Mild steel or high density polyethylene. Not usable materials:

For containers or container linings, avoid: PVC.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**EXPOSURE CONTROL:**

Hygienic precautions: Wash hands before eating and drinking. Use local exhaust ventilation if there is a risk of inhalation of vapors, mists or aerosols.

**RESPIRATORY PROTECTION:**

Normally not required. If oil mist cannot be controlled, a respirator fitted with an organic vapor cartridge combined with a particulate pre-filter should be used.

**EYE PROTECTION:**

Wear safety glasses or full face shield if splashes are likely to occur.

**HAND PROTECTION:**

PVC or nitrile rubber gloves. Penetration time: > 8 hours.

**SKIN PROTECTION:**

Minimize all forms of skin contact. Wear overalls. Launder overalls regularly.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

FORM:	Liquid	ODOUR:	Characteristic.
COLOUR:	Light yellow.	SOLUBILITY:	Hydrocarbon solvent(s).
MELTING/FREEZING POINT:	-54 - -36°C	BOILING POINT:	>280°C
DENSITY:	842-860 kg/m <sup>3</sup> (15°C)	FLASH POINT:	225-245°C
EXPLOSION LIMITS LEL-UEL %:		PH (CONCENTRATE.):	
SOLUBILITY IN WATER:	Ignorable	MOL MASS:	
VAPOUR PRESSURE:	<0,5 Pa, 20°C	VISCOSITY:	68 - 1000 cSt (40°C)
SATURATION CONC.:		AUTO IGNITION TEMP:	
DECOMPOSITION TEMP.:		SMELL LIMIT:	
PH (SOLUTION):		REL.VAPOUR DENSITY (AIR=1):	> 1

**10. STABILITY AND REACTIVITY**

STABILITY: Stable.

Avoid the following: Extremes of temperature and direct sunlight.

**REACTIVITY:**

Strong oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Hazardous decomposition products are not expected to form during normal storage.

**11. TOXICOLOGICAL INFORMATION**

**GENERAL:**

Toxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the toxicology of similar products.

**INHALATION:**

If mists are inhaled, slight irritation of the respiratory tract may occur.

**SKIN CONTACT**

Expected to be slightly irritant. Will cause defatting of skin. Prolonged or repeated contact may cause irritation and dermatitis.

**EYE CONTACT:**

Expected to be slightly irritant.

**INGESTION:**

Low acute toxicity. Risk for chemical lung inflammation if the liquid after swallowing comes into the lungs.

**CHRONICAL EFFECTS:**

This product has not been evaluated in long-term chronic exposure tests.

**SENSITIZATION:**

Not expected to be a skin sensitizer.

**MUTAGENICITY:**

Not considered to be a mutagenic hazard.

**CANCER:**

Components are not known to be associated with carcinogenic effects.

**OTHER TOXOLOGICAL INFORMATION:**

Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. All used oil should be handled with care, and contact with skin avoided if possible.

**ORAL TOXICITY:**

LD50 (expected) >2000 mg/kg

**DERMAL TOXICITY:**

LD50 (expected) >2000 mg/kg

**12. ECOLOGICAL INFORMATION**

**MOBILITY:**

Floats on water. Liquid under most environmental conditions. If it enters soil, it will adsorb to soil particles and will not be mobile.

**BIODEGRADABILITY:**

Not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

**ACCUMULATION:**

Has the potential to bioaccumulate.

**ECOTOXICITY:**

Poorly soluble mixture. Product is expected to be practically non-toxic to aquatic organisms, LC/EC50>100 mg/l. May cause physical fouling of aquatic organisms. (LC/EC50 expressed as the nominal amount of product required to prepare aqueous test extract). Distribution log Pow:> 6 (typical).

**OTHER EFFECTS:**

German rating for aquatic danger is WGK 2.

**MORE INFORMATION:**

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components as well as ecotoxicological data for similar products.

**13. DISPOSAL**

**DECONTAMINATION/DISPOSAL:**

Measures: See Section 8.

To be delivered as hazardous waste to licensed disposer or collector. The hazardous waste code below (EWC-code) is instructive. The user will have to give the right code if the field of use varies.

**DISPOSAL GROUP:**

Waste disposal: Product disposal:

EWC-code 13 02 06 Synthetic motoroil, transmission oil and lubricant.

Container disposal: All containers should be emptied and returned to the supplier or sent to a drum reconditioner or metal recoverer without removing or defacing markings or labels.

**14. TRANSPORT INFORMATION**

<b>ADR(Road)</b>			
UN NO:		CLASS:	
LABEL:		DANG. GOODS:	
PACKING GROUP:		HAZ. ID NO:	
<b>RID(Railway)</b>			
UN NO:		CLASS:	
HAZ. ID NO:		DANG. GOODS:	
PACKING GROUP:			
<b>IMDG(SEA)</b>			
UN NO:		CLASS:	
LABEL:		DANG. GOODS:	
EMS:		PACKING GROUP:	
MARINE POLL:		SUB.RISK:	
<b>IATA(Airplane)</b>			
UN NO:		CLASS:	
LABEL:		DANG. GOODS:	
SUB.RISK:		PACKING GROUP:	

**MORE INFORMATION:**

Not considered as dangerous goods under UN, IMO, ADR/RID or IATA/ICAO regulations.

**15. REGULATORY INFORMATION**

**S-PHRASES:**

Safety Data Sheet available for professional user on request.

**REFERENCES**

Regulations relating to the classification, labeling, etc. of dangerous chemicals.

List of threshold limit values (Administrative norm).

Regulations relating to hazardous waste

**16. OTHER INFORMATION**

Replace date: 04.10.2005

**MORE INFORMATION:**

Information which has been added, deleted or revised: Chapters changed from previous version: 1,16

**VENDOR NOTES**

The MSDS is made by means of information given by producer/supplier and the existing laws and regulations for classifying and labeling of chemicals.

This information is based on our present knowledge and the purpose is to describe the product in accordance with health, security and environmental demands. It must not be comprehended as a guarantee for a specific product quality.

This document contains important information on right conditions for storing, handling and usage of the product. The information in this document must be passed on to the people in your organization, who are responsible for giving advises on safety. Information in this document is to be made available for all who handle the product.

**Appendix-C  
Responsibilities Chart-HAZCOM**

S. No	Activity	Superintendent / Team Leader User division	Contract Owner	Superintendent- Purchasing	Team Leader Warehouse	Team Leader -Facility Engineering	Superintendent - EH&S	Worker
1	Administer this document						X	
	<b>Purchase of New Chemicals</b>							
2	Submit duly filled “Product Acceptance Evaluation Form” ( PAEF-Appendix A ) a long with MSDS to Superintendent-EHS	X						
3	Ensure contractors wanting to bring new chemicals submit duly filled PAEF-Appendix A along with MSDS to Superintendent-EHS		X					
4	Review PAEF and MSDS, and notify Superintendent of Originating Division/ Contractor Owner of approval/ rejection						X	
5	Include PAEF and MSDS in the Purchase request	X						
6	Ensure RFQ for new chemical is released only after receiving a copy of approved PAEF			X				
	<b>Inventory of Chemicals and MSDS</b>							
7	Purchase order/ terms and conditions specify that supplier of chemical provides updated MSDS to Purchasing and Warehouse prior to delivery of chemicals, and whenever significant changes have been done by manufacturer to MSDS, but at least annually.			X				
8	Ensure chemicals are allowed to be received or stored in warehouse only after MSDS is provided by supplier.				X			
9.	Forward electronic copy of updated MSDS received to HAZCOM Process Advisor				X			
10	Review updated copies of MSDS received from Warehouse, and forward to Facility Engineering for display on JO website						X	
11	Update JO website for MSDS and inform HAZCOM Process Advisor and Superintendent User Division					X		
12	Ensure updated MSDS are available in division’s MSDS folder and inventory of chemicals is also updated, and employees are informed	X						

S. No	Activity	Superintendent- Chemical User division	Contract Owner	Superintendent- Purchasing	Team Leader Warehouse	Team Leader -Facility Engineering	Superintendent EH&S	Employee
13	Ensure the contractor has provided to the concerned division and HAZCOM Process Advisor, MSDS for all chemical products that they plan to bring on site.		X					
14	Ensure MSDS of chemical products brought on site by contractors are displayed in MSDS folder of the division/site, and JO website.	X				X	X	
15	HAZCOM Process Advisor shall periodically review MSDS and communicate list of carcinogens, teratogens, mutagens and sensitizers to respective Superintendent of user division.						X	
16	Review use of carcinogens, teratogens, mutagens and sensitizers and possibility of using alternate safer chemicals	X						
	<b>Other Requirements</b>							
17	Ensure availability of MSDS as a soft copy or hard copy at the site of use of chemicals	X			X			
18	Ensure compliance to HAZCOM requirements before work commencement	X	X		X			
19	Ensure the hierarchy of controls are implemented to prevent exposure to chemicals	X	X		X			X
20	Ensure PPE is provided and maintained as per program requirements	X	X		X			X
21	Ensure availability of safety showers and eye wash fountains in working condition	X	X		X			X
22	Ensure requirements on storage of chemicals and storage conditions are as per clause 3.3	X	X		X			X
23	Ensure signboards at chemical storage, and packaging and labels on containers are as per clause 3.4	X	X		X			X
24	Transportation and handling of chemicals at worksite	X	X		X			X
25	Develop and implement written work procedure	X	X		X			
26	Emergency Preparedness	X	X		X			X
27	Manage chemical waste	X	X		X			X
28	Ensure training in HAZCOM O/E Process/ JOSOP 505, and HAZCOM training requirements are complied	X	X		X			
29	Ensure contractors comply with HAZCOM requirements as per clause 3.12		X					

S. No	Activity	Superintendent- Chemical User division	Contract Owner	Superintendent- Purchasing	Team Leader Warehouse	Team Leader -Facility Engineering	Superintendent EH&S	Employee
30	Maintain auditable records to document compliance with applicable clauses of this document	X	X	X	X	X	X	
31	Site implementation audit (check for MSDS, storage, labels, chemical hazard awareness and training, PPE, safety showers)	X	X		X			
32	Annual audit of division s against implementation plans and process requirements						X	