VALIDATION

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MODIFICATION HISTORY

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OBJECTIVE

This procedure defines the general provisions taken by ABIDJAN OFFSHORE for the control of risks and dangers linked to the handling, storage and use of chemical products.

APPLICATION DOMAIN

This procedure applies to all activities involved in the purchase, receipt, storage and use of chemicals.

RESPONSIBILITIES

QHSE services ensure that the provisions provided for in this procedure are put in place, applied and updated as necessary.

REFERENCE

- Decree No. 98-38 of JULY 18, 1998 establishing the minimum requirements for protection against chemical risks
- ISO 45001:2018 Standard

RELATED DOCUMENTS

- ***AO-QHSE-BDD-04-QHSE regulatory compliance assessment***
- ***AO-QHSE-BDD-03-Chemical product directory***
- ***AO-QHSE-ENR-10-Simplified FDS***
- ***AO-QHSE-BDD-05-Risk Assessment Document***
- ***AO-QHSE-ENR-01-JSEA***
- ***AO-QHSE-ENR-08-Protocol of loading / Unloading***

RECIPIENTS

All Abidjan Offshore staff as well as external service providers are affected by this procedure.

1- CHEMICALS

1.1 Definitions and regulations

Regulatory monitoring is maintained by the DQHSE department through the document "AO-QHSE-BDD-04-Evaluation of QHSE regulatory compliance". The applicable regulation concerning chemical products is Decree No. 98-38 of JULY 18, 1998 establishing the minimum requirements for protection against chemical risks.

Dangerous material	Any product likely to harm the physical integrity of people or cause damage to installations and the environment is considered a hazardous material.
Incompatible products	Product whose accidental mixture generates flammable, explosive, toxic or corrosive products.
MSDS (Material Safety Data Sheet)	Document that must systematically accompany all dangerous goods. Issued by the producer and to be attached to the goods by the sender, it is an essential information document.
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
DGR - IATA	Dangerous Goods Regulations (International Air Transport Association)

1.2 Identification of risks related to chemicals

a. Identification of dangerous products

Hazard classes are used to define:

- The nature of the products and the associated risks
- Packaging, labeling, marking of packages,
- Handling, storage and transport procedures.

Information regarding the identification of materials can be found in the document "AO-QHSE-BDD-03-Directory of chemical products".

b. Associated risk category

There are nine categories of risk:

- **Explosiveness**: property of decomposing violently under the action of heat or shock, causing a mass of hot gases and a shock wave;
- **Gaseous**: risk of leakage or bursting of the container with diffusion of the gas into the atmosphere; risk specific to the nature of the gas: flammability, toxicity, corrosiveness, etc.;
- **Flammability**: property of catching fire easily;

- **Toxicity**: property of poisoning, that is to say of harming health or causing death by inhalation, skin absorption or ingestion;
- **Radioactivity**: property of emitting various radiations dangerous for living beings;
- **Corrosivity**: property of eating away, oxidizing or corroding materials (metals, fabrics, etc.) or living tissues (skin, mucous membranes, etc.);
- **Infectious**: property of causing serious illness in humans or animals. This risk concerns materials containing infectious microorganisms such as viruses, bacteria, parasites
- **Spontaneous violent reaction**: possibility of reacting violently and spontaneously in the form of an explosion with production of heat and release of flammable or toxic gases, under high pressure.
- **Burns**: property of causing burns from heat or cold.

Some materials present only one risk, others combine several.

c. Mandatory information and documentation

The Safety Data Sheet (SDS) must be available for each of the products present on our sites. The SDS must be kept both by the QHSE department and by the department where the product is located.

In addition, for hazardous products that are used in large quantities on site, a simplified SDS "AO-QHSE-ENR-10-Simplified SDS" must be displayed at the product storage location, to ensure that important information is quickly accessible in the event of an emergency.
This information must be available away from chemical containers.

d. Hazardous Materials Hazard Information

Damage to the body can occur if the human body is contaminated:

- **Ingestion**
- **Inhalation**
- **Direct contact with skin**

The reactions or consequences of these contacts are not always clearly predefined. In general, the extent of the physiological consequences varies with the time of exposure and the amount of contaminant present and the absence of immediate reactions does not mean that the product or commodity in question is completely harmless.
No hazardous product should be used, handled or stored:

- If it has not been validated by the QHSE department,
- If the MSDS has not been provided by the supplier or customer,
- After its expiration date.

e. Risk assessment

Before any contact, handling or use of hazardous products or materials, it is required to carry out an assessment of potential risks via the document "AO-QHSE-ENR-01-JSEA" and to define, using the safety data sheets FDS or MSDS, the recommendations and actions to eliminate or minimize them. The document "AO-QHSE-BDD-05-Risk Assessment Document" records all risk assessments.

2-ORGANIZATION OF PREVENTION

2-1 Acquisition of a chemical product

For any request for a new chemical product, the requesting department ensures that it obtains the MSDS and the Technical Data Sheet (TDS) issued by the supplier of all the products requested.

Contracts binding suppliers of chemical products to ABIDJAN OFFSHORE must provide for the following rules:

- Regulatory requirements to be met on the provision of MSDS
- Regulatory requirements related to transport
- ABIDJAN OFFSHORE requirements for reception

If the hazardous material is supplied in bulk, then a loading and unloading protocol "AO-QHSE-ENR-08-Loading and Unloading Protocol" is attached to the contract with the service provider.

2.2 Transport by the supplier

The transportation of hazardous materials or chemicals may be carried out by a supplier, a service provider of the supplier or by ABIDJAN OFFSHORE.

In the event that the transport is carried out by a company other than ABIDJAN OFFSHRE, the obligation to comply with the regulations relating to the transport of dangerous materials and chemical products must appear on the contract which binds us.

2.3 The reception

a. Checking the goods

The person responsible for receiving or shipping dangerous materials must:

- Check packaging, marking and labeling,
- Systematically refuse goods whose packaging is not intact (leaks, holes or other),
- Isolate products representing a significant hazard, respecting the compatibility rules and storage requirements.

Before carrying out unloading/loading or stripping/stuffing operations, the employee following the operation must:

- Quickly identify the product type, hazard class (pictogram) and define the storage area,
- Ensure that the seals and the package are untouched,
- If there is a particular reason to suspect danger, for example because packages are damaged (traces of water, oily deposits, seepage, etc.), you must seek the advice of your line manager before starting unpacking.
- Consult the reference documents (MSDS or FDS) for measures or precautions to be taken with regard to individual or collective safety equipment for handlers.

Operations can then begin. To do this, you must:

- Prevent access by any unauthorized person by installing a safety barrier - a barrier or any other suitable means at least 1.5 m from the product.
- Ensure that in the presence of flammable materials there are no sources of ignition nearby.

b. Loading / Unloading

The safety measures put in place for the loading/unloading activity are established with the transport company in the document "AO-QHSE-ENR-08-Loading Unloading Protocol".

Dangerous goods must only be packed and handled under the direct supervision of a trained and identified person who is aware of the risks involved and the emergency measures to be taken in the event of an accident or incident.

c. Storage

Unless the measures required by the customer or the regulations are more restrictive depending on the products to be stored, the following measures must apply:
Personnel using chemicals and their management must have training in hazardous materials. They must place dangerous goods in specially designed areas that are cool, well-ventilated and protected from any source of fire or heat, in accordance with the regulations in force (Decree No. 2006-1257 of 15 November 2006 establishing the minimum requirements for protection against chemical risks).

By scrupulously respecting:

- The supplier or producer's storage instructions, contained in the regulatory documents (MSDS).
- Compatibility and incompatibility between hazardous products.

The storage conditions are as follows:

- Maximum height for product storage: 5 meters for liquids / 8 meters for solids
- Storage in cells of 5,000 m2, in islands (600 m2) separated by 1.5 m between them, except for flammable products must be stored separately in a dedicated and constantly ventilated enclosure.

d. The rules

➢ General provisions

- A dedicated storage area must be set up for the storage of hazardous products.
- The area reserved for storage must be clearly marked: signs (Danger - Dangerous materials - No smoking - Restricted access and other safety instructions) must be clearly visible and indicate the potential dangers and risks that exist, as well as access restrictions.
- Storage containers or tanks must always be watertight.
- The floor of the storage areas must be made of concrete or cement.

The QHSE manager ensures that the pollution control equipment is compliant. The manager of each activity must ensure that their pollution control equipment is available.

➢ **Safety equipment**

Before storing dangerous goods, it is necessary to analyze the need for retention tanks and to set up the necessary retentions. The material of the retention tank must be adapted to the properties of the stored products.
Containers must be closed and positioned in a stable manner: no excessive bulk or haphazard stacking.
For underground tanks, periodic inspection is mandatory every 5 years for the leak detection system and every 10 years for the tanks themselves. For above-ground tanks, a visual inspection of retentions and leaks must be carried out.

e. Product incompatibility

Incompatible products must not be stored together. The matrix below must be respected. It is mandatory to store only the quantity necessary to limit any risk. Flammable products must be stored in protected and ventilated areas.

	Danger physico-chimique				Danger pour la santé			
Ancien étiquettage	F*-Extrêmement inflammable ou F-Facilement inflammable	O-Comburant		E- Explosif	Xn-Nocif ou Xi-Irritant	C-Corrosif	T*-Très toxique ou T-Toxique	N- Dangereux pour l'environnement
Nouvel etiquetage	Inflammable	Comburant	Gaz sous pression	Explosif	Toxique	Corrosif	Très toxique	Moyennement toxique	Dangereux pour l'environnement aquatique
Mentions de danger	H220 à 226 H228, H241, H242, H250, à H252, H260, H261	H270, H271, H272	H240, H241, H242	H200, H201, H202, H203	H302, H312, H332, H317, H315, H319, H335, H336	H314, H318	H304, H334, H340, H341, H350, H351, H360, H361, H370 à H373	H300, H301, H310, H311, H330, H331	H400, H410, H411, H412 et H413
Inflammable	+	-	-	-	+	-	-	-
Comburant	-	+	-	-	-	-	-	-
Gaz sous pression	-	-	+	-	-	-	-	-
Explosif	-	-	-	+	-	-	-	-
Toxique	+	-	-	-	+	-	+	+
Corrosif	-	-	-	-	-	0	-	-
Très toxique	-	-	-	-	+	-	+	-
Dangereux pour l'environnement aquatique	-	-	-	-	+	-	-	+

+ Peuvent être stockés ensemble - Ne peuvent pas être stockés ensemble 0 Peuvent être stockés ensemble sous certaines conditions*

* Les acides et les bases affichent ce même pictogramme mais doivent être stockés séparément.

⚠ En cas de doute, se référer à la FDS afin de vérifier les risques d'incompatibilités spécifiques entre produits chimiques

2.4- Internal transport

The transport of dangerous materials or chemicals internally must meet the following obligations:

a. Truck equipment

- **Electrical installation**
  Tanks and special vehicles for the transport of explosive materials must be equipped with compliant electrical equipment (two-pole battery disconnect switch, watertight sheaths, etc.).

- **Fire extinguishers**
  All transport vehicles must be equipped with portable fire extinguishers:
  - An ABC powder fire extinguisher with a minimum capacity of 2 kg, suitable for fighting a fire in the engine or in the cabin;
  - An ABC powder extinguisher with a minimum capacity of 6 kg, suitable for fighting a tire or brake fire or a fire involving the load.

  The fire-fighting capacity must be adapted in quantity and type of means, depending on the load.

- **First aid equipment**
  All transport vehicles must be equipped with:
  - From a means of communication,
  - At least one wedge,
  - Two self-supporting warning signals (reflective cones or triangles or flashing lights) independent of the vehicle's electrical installation,
  - Appropriate fluorescent clothing for each member of the vehicle crew,

  This basic equipment may be supplemented, where appropriate, by the means necessary for the application of additional and special measures, specified to the driver in the written safety instructions relating to loading.

b. Safety instructions

All external road transport must be subject to written safety instructions for each material transported. These are presented in the MSDSs which are provided by the supplier and are part of the on-board documents which must be in the vehicle cabin. They must specify at least:

- The name of the goods, its class and its UN number
- The nature of the danger and the safety measures to be observed
- Personal protective equipment to be used
- General provisions to be observed in the event of an incident
- Any additional measures to be taken due to the nature of the incident
- Necessary intervention equipment: shovel, mask, gloves, etc.

2.5- The use

c. Organizational control methods

➢ Job descriptions

Job descriptions are written information tools intended to inform workers of the risks to which they may be exposed and the measures taken to avoid them.

➢ Other organizational means

- Limitation of working time at exposed positions
- Purchasing procedure (taking into account quantities and packaging adapted to use)
- Management of flows and storage of chemical products (unused stocks, limitation of stored quantities, etc.)
- Waste management
- Facility maintenance procedures
- Restriction of access to premises

d. Information, awareness, training

➢ Safety data sheets

They must be available to users because they contain information regarding the precautions to take during handling.

➢ Awareness, training

Awareness and training aims to eliminate or limit chemical risks by transmitting good practices. They are as follows:

- Limit contact with products as much as possible,
- Identify the chemicals you use,
- read the labels carefully and follow the specific instructions for use,
- Among the products available at your station, choose the least dangerous product with comparable effectiveness,
- Respect hygiene rules (work clothes, hand washing, etc.),
- Check the availability of emergency resources,
- Always handle chemicals with care,
- Follow the operating procedures, instructions, job descriptions,
- If you transfer a chemical to another container, it must be labeled,
- Never mix two products unless it is intended because some are incompatible with each other,
- Respect collective protection measures (capture, ventilation, access to delimited areas, etc.).

- Wear the required personal protective equipment (gloves, masks, overalls, etc.): they must be your size, provided free of charge, for personal use, adapted to the risk, in good condition and maintained,
- Report any problems and difficulties encountered, any troubleshooting to be carried out,
- Clean your workstation if necessary,
- Do not leave equipment, products, impregnated cloths lying around...
- Do not drink, eat, smoke or vape while handling chemicals,
- Do not bring your soiled work clothes home; change them and have them cleaned regularly,
- You need to know where the MSDS is located.

e. Protective equipment

➢ **Collective protective equipment**

There are technical measures such as:

- Reducing emissions (lowering the temperature, suppressing dust by misting, etc.);
- Capturing pollutants at source;
- General ventilation, sanitation.

➢ **Personal protective equipment**

Wearing personal protective equipment for long periods of time can cause discomfort or inconvenience: weight, heat, excessive pressure on a part of the body, hearing or visual discomfort, loss of dexterity, etc. In order to facilitate the acceptance of PPE and improve its effectiveness, it is important to respect the following rules:

- Choosing suitable PPE according to the MSDS
- Involving users in PPE choices
- Train operators in their use
- Adapt work rhythms to take into account the constraints generated by wearing PPE
- Ask the occupational physician for advice to identify suitable PPE and look for appropriate solutions for certain employees (allergic, glasses wearers, etc.)
- Testing the effectiveness of PPE at the workstation

There are some to protect:

• the face and eyes; • the respiratory tract; • the body; • the hands; • the feet and legs.

3- EMERGENCY MANAGEMENT

In addition to the daily operations and activities to be controlled which present risks for the environment and for people, incidental or accidental situations may occur for which precautions must also be taken through instructions and other technical means.

The most important emergency situations concern the following areas:

- Fire/Explosion
- Spill of hazardous products
- Gas leak

Generally, the “Protect, Alert and Rescue” (PAS) method is used during emergency events or situations. All incidents/accidents must be reported to the QHSE department within 24 hours.

Any employee who is faced with an emergency situation must implement the following instructions:

3.1-Fire / Explosion

In the event of a fire or explosion, immediately alert those in the area using fire or evacuation alarms, emergency communication systems or other available alert methods. Then quickly and calmly evacuate the affected area, following pre-defined evacuation routes. If you have received training in the use of fire extinguishers/IARs, attempt to use them if it is safe to do so. Once evacuated, assemble at the pre-defined assembly point a safe distance from the fire area.

Wait for instructions from the relevant authorities and do not return to the evacuated area without their permission.

3.2- Accidental spill

In the event of a chemical spill, the severity must be assessed before intervening in order to limit the environmental impacts. When the spill is controllable, the anti-pollution kit provided near the chemical storage areas must be used.

When the spill is uncontrollable, you must notify your superiors, as well as the QHSE department for rapid control of the situation. In both cases, the information must be passed on so that actions can be taken to prevent the incident from happening again.

3.3- Personal accident

In case of contact with a chemical product, the instructions are indicated on each MSDS. Below are some examples:

- In case of contact with eyes, face or body, it is recommended
  - Rinse the contact areas thoroughly with water for at least fifteen minutes;
  - Remove all contaminated clothing.
- If swallowed or absorbed, do not attempt to vomit.
- If inhaled, remove from contaminated area and move to a well-ventilated area.

The following emergency resources are made available to the employee for rapid intervention.

- The first aid kit: it is placed in the office of the HSE Manager of the site who is trained to provide first aid.
- Eye wash: This allows you to immediately rinse your eyes with plenty of water. They must be kept clean, especially the surfaces that come into contact with the eye area.
- The safety shower: it allows you to immediately rinse your eyes with plenty of water and your entire body to eliminate chemicals resulting from accidental splashes.

When the situation is not under control, it is advisable to alert the emergency services.