

HAZARDOUS PRODUCTS MANAGEMENT PLAN

I. Objective

The use of hazardous products during the construction work is expected to be limited (maintenance of the engine, paints, ...).

ARISE Ivoire has developed a **Hazardous products management plan** to detail the measures involving handling, storage and use of products classified as hazardous in order to avoid incidents both for biophysical environment and human health.

II. General Conditions

A. Scope of Application

All the sub-contractors

B. Applicable Regulations

Environmental, Health and Safety (EHS) Guidelines, IFC, 2007

III. Measures

For the construction, hazardous products that can be used (and in small quantities) are the following:

- hydrocarbons,
- oil,
- lubricants,
- paints.

Following aspects regarding the overall management of the hazardous products are considered:

- any product with hazardous nature is registered, monitored and the related safety data sheet is available on site,
- hazardous products register is available and up to date in the storage area,
- the use of equipment containing PCBs and pesticides is avoided in accordance with the Stockholm Convention on Persistent Organic Pollutants ratified by Cote d'Ivoire on 31 December 2004,

- conditions for the final treatment of residues or recycling are implemented as the waste management plan requirements.

The location for hazardous products storage is anticipated to be on-site, at a distance from sensitive receptors:

- 50 m from any watercourse and outside floodplain,
- 200 m from any dwelling.

These distances also applied to the area for maintenance and washing of equipment which are also equipped with an oil separator at the discharge point.

Each SC should have its own warehouse for hazardous products storage and is responsible for their handling, storage, using and disposal according to the following measures.

Purchase of hazardous substances

Prior to purchasing any hazardous substance, consideration is given to the possibility of using a safer substance. The following procedure is followed by the E&S manager prior to any purchase:
















1. Request an MSDS (Material Safety data Sheet) on identified substance. Review health hazard information.
2. Conduct a risk assessment taking into account the potential hazards and exposures.
3. Determine about whether there are adequate controls in place, whether more are required, or whether there is a more suitable substance with less risk?
4. Ensure once receipt of substance that all measures are in place to control identified risks.

Hazardous substance register

Hazardous substances used at all workplaces are identified listed on a register. A collection of MSDS is readily available to workers and constitutes part of the Register. This register also states dangerous goods status/class of any of these substances as well as maximum quantities stored. The register is updated anytime by the E&S manager when new substances are introduced.

Classification

Hazardous products are stored in compliance with the Globally Harmonised system (GHS) and the Classification, Labelling and Packaging of Substances and Mixtures. Storage compatibility between several chemicals will be checked when different types are stored together.

 Explosive (divisions 1.1 – 1.4); Self-reactive substances; Organic peroxides.	 Flammable Flammable substances; Pyrophoric substances; Self-heating substances; Substances that emit flammable gases in contact with water.	 Oxidising Oxidising substances.	 CLASS 1 Divisions 1.1–1.6 EXPLOSIVES eg. Anfo	 CLASS 2 Division 2.1 FLAMMABLE GASES eg. Acetylene	 CLASS 2 Division 2.2 NON-FLAMMABLE NON-TOXIC GASES eg. Nitrogen	 CLASS 2 Division 2.3 TOXIC GASES eg. Chlorine	 CLASS 3 Division 2.3 FLAMMABLE LIQUIDS eg. Petrol
 Corrosive Corrosive to metals; Skin corrosion; Serious eye damage.	 Toxic Acute toxicity (oral, dermal, inhalation)	 Compressed Gas Compressed, liquefied, and dissolved gases.	 CLASS 4 Division 4.1 FLAMMABLE SOLIDS eg. Sulfur	 CLASS 4 Division 4.2 SPONTANEOUSLY COMBUSTIBLE SUBSTANCES eg. Zinc Dust	 CLASS 4 Division 4.3 DANGEROUS WHEN WET eg. Calcium Carbide	 CLASS 5 Division 5.1 OXIDISING SUBSTANCES eg. Silver Nitrate	 CLASS 5 Division 5.2 ORGANIC PEROXIDES eg. Benzoyl Peroxide
 Irritant Eye or skin irritation; Skin corrosion; Respiratory tract irritation; Narcotic effects.	 Health Hazard Aspiration hazard; Respiratory sensitization; Carcinogenicity; Germ cell mutagenicity; Reproductive toxicity; Specific target organ toxicity.	 Environmental Hazard Acute or chronic hazards to the aquatic environment.	 CLASS 6 Division 6.1 TOXIC SUBSTANCES eg. Sodium Cyanide	 CLASS 6 Division 6.2 INFECTIOUS SUBSTANCES eg. Anthrax	 CLASS 7 RADIOACTIVE SUBSTANCES eg. Uranium	 CLASS 8 CORROSIVE SUBSTANCES eg. Hydrochloric Acid	 CLASS 9 MISCELLANEOUS DANGEROUS GOODS eg. Asbestos

GHS Hazard pictograms (left) and Dangerous good classification (right)

							
	✓	✗	✗	✗	✗	✗	✓
	✗	✓	✗	✗	✗	✗	1
	✗	✗	2	✗	✗	✗	✗
	✗	✗	✗	3	✗	✗	✗
	✗	✗	✗	✗	✓	4	✓
	✗	✗	✗	✗	4	4	4
	✓	1	✗	✗	✓	4	✓

- ✓ Can be store together
- ✗ Cannot be store together
- Can be store together with condition:
 - 1- only in small quantities
 - 2-depending on the FDS of the products
 - 3- acids and bases separately and stored in distinct retention containers
 - 4- . separate, locked and dedicated stores

Products compatibility

Storage condition

All hazardous substances are kept in secured storage facilities. Placarding on entrance doors to storage facilities is present. The doors are kept locked except when there is an employee present who has been assigned the responsibility of accessing this area.

All containers containing any substance are labelled appropriately including any risks or significant hazards posed by the substance.

The area where dangerous goods are stored is:

- sufficiently ventilated,
- separated from ignition sources,
- protected from temperature fluctuations and direct sunlight,
- with limited access to authorized persons,
- equipped with appropriate retention regarding the volumes and characteristics of all products stored (retention of a volume at least equal to 110% of the largest container located on the platform). Retention must be waterproof, close, resistant to the physical and chemical action of the product and adapted to chemical incompatibilities.
- covered to be protected from the bad weather. Otherwise, rainwater must be collected and treated,
- equipped with spill kits and appropriate extinguishers.

The storage of hazardous products will be regularly inspected to detect any leaks or damage to containers.

Storages of powdered products are confined and the installations for handling, transferring, transporting powdered products are capped and equipped with a suction device to reduce dust deposits. The suction devices are connected to a dust removal system. This equipment also satisfies the prevention of fire and explosion risks (Vents for drying towers, dust collectors...).

Handling

ARISE Ivoire ensures that employees are familiar with the handling and storage practices of all containers with which they will come into contact and that they have received appropriate training (PPE, dedicated area to handle, etc).

The loading and unloading areas of tanks, and in general all areas where hazardous products are handled shall be leakproof and shall be connected to retention.

Disposal

MSDS's are viewed to determine the most appropriate means of disposal. All substances no longer required are removed from the site by a licensed operator for disposal, as per the waste management plan requirements.

Monitoring indicators	<ul style="list-style-type: none"> • monitoring of the hazardous products and MSDS registration, • surface for hazardous product storage • number of environmental or safety accident, • number of training on emergency procedure, • number of non-compliance observed, registered and treated.
Reference documents	Emergency plan