



SABAH FORESTRY DEPARTMENT

DERAMAKOT FORESTRY DISTRICT
(DERAMAKOT FR-FMU 19A & TANGKULAP/SG. PINANGAH FR-FMU 17A)

Standard Operating Procedures

Chemicals & Fuel

Document No.: SFD/DFR/SOP - 008

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1.0 BACKGROUND & PURPOSE

Sabah Forestry Department (SFD) has initiated a policy to pursue certification by meeting the requirements of FSC as well as national standards in its management systems for Sabah. To ensure that its operations are in line with FSC requirements the SFD has developed a series of Guidelines for forest management in 2008 that has been adopted into procedures for use in FMU 19A and FMU 17A.

The purpose of this procedure is to define the process of handling & storage of chemicals & fuels and implementation to meet the requirements of FSC as well as national standards in its management systems for Sabah.

2.0 SCOPE

The scope of this procedure is limited to **handling; storage and disposal of chemicals & fuel** within FMU 19A & 17A managed by SFD. The procedure is to ensure that work may be completed in a controlled, consistent and effective manner.

3.0 RESPONSIBILITIES

The Head of Occupational, Safety & Health is responsible for:

- Regulating the requirement of personal protective equipment
- Establishing rules for safety and first aid measure for forest workers
- Training of forest officers
- Ensuring the implementation of this procedure

The Forest Officer (Occupational, Safety & Health) is responsible for:

- Arranging the logistic of the workshop/store of chemical & fuel
- Implementation of proper safety equipment & first aid measurement
- Implementation of proper storage of chemicals and fuels
- Training of supervisors and rangers
- Reporting on the implementation

4.0 DEFINITIONS

This procedure contains definitions of common terms used by FSC & SFD in the procedures for forest management.

FSC: Forest Stewardship Council, an international non-government organization that governs the Forest Management and Chain of Custody standard.

FMU: A clear defined forest area with mapped boundaries, managed by a single managerial body to a set of explicit objectives, which are expressed in a self –contained multi-year management plan.

DOSH: Divisional of Occupational Safety & Health, better known as Cal/OSHA are to protect workers and the public from safety hazards through the Cal/OSHA and provides consultative assistance to employers.

5.0 INTRODUCTION

Hazardous goods used during timber harvesting operations include fuel/diesel, engine and chainsaw oil, and hydraulic fluid. In addition, pesticides and fungicides may be applied in forest operations (e.g. forest nursery) to protect plants from pests and diseases. Herbicides are used to eliminate unwanted species competing with desirable tree species. Appropriate descriptions for use and control of these substances must be established by the forest manager and documented in the harvesting plan, to prevent any injuries or other health damage to forest workers. Specific guidelines shall be developed for the location and construction of workshops, the safe storage, correct application, and proper disposal of hazardous goods after use. Forest managers shall also regulate the requirements for the use of personal protective equipment, and establish rules for safety and first aid measures for forest workers.

6.0 WORKSHOPS AND STORES

The following rules shall be observed when erecting workshop buildings and stores for hazardous goods:

- Locate facilities at least 100 m away from any watercourse or body
- Follow the design and layout, as prescribed by SFD (and or DOSH)
- Construction for storage of dangerous goods must be approved by SFD (and or DOSH).
- Workshops should contain adequate facilities to collect and store used fuel oil and machinery parts that cannot be used.
- Workshops need to have proper fire extinguishers
- Workshop staff need to be trained on cleanliness and safety and use safety wear such as hard hats, boots and protective eye wear as appropriate to the work carried out.

7.0 FUEL STATIONS AND TANKS

Fuel stations shall be located in the vicinity of camps, log yards or workshops with permanent staff, to monitor and control their conditions and usage:

- Make sure fuel tanks are located in a well drained area at least 100 m from watercourses, camps and villages
- Do not set up fuel stations within or near conservation and protection areas, or buffer strips/zones

- Fuel tanks shall be established with catch trays, i.e. concrete base and walls around the storage (for permanent stores) or containers where fuel spillage can occur, preventing fuel from entering the soil.
- Drains around catch trays are to be directed to a closed, stable and flood free disposal area at least 50 m from a watercourse or water body.
- Care shall be taken to prevent fuel spillage during refueling and repairs, adequate equipment – e.g. hand pumps – should be provided and used
- Guidelines shall be in place to regulate the use of fuel stations, including prevention and safety measures, as well as immediate action following spills and fire outbreak.

8.0 USE OF CHEMICALS

Forest managers shall strive to develop and demonstrate their efforts towards using chemical free methods of forest protection. In case there is no current alternative to the use of chemicals pest control measures shall be used that have the least effect on the environment and people, while maximizing efficiency of use. The use of any such substances must be guided by written site-specific prescriptions.

- Chemicals must only be used when necessary to achieve defined management objectives, as described in the Forest Management Plan and / or Annual Plan, and in accordance with the manufacturer's instructions
- Only those chemicals (e.g., pesticides, herbicides, fungicides, etc) are permitted that are not mentioned in the list of prohibited chemicals of the World Health Organization (WHO), such as those classified as Type 1A and 1B, chlorinated hydrocarbon pesticide, toxic and/or persistent pesticides, all pesticides banned by international agreements, and pesticides whose derivatives remain biologically active and accumulate in the food chain.
- Make use of biodegradable substitutes, whenever possible
- The type of chemical to be used, chemical dosage, as well as the conditions of usage, application methods and levels must be specified in the corresponding guidelines and/or Annual Plan.
- Forest workers shall be adequately trained in the application of chemicals, use of personal protective clothing and equipment, and safety/first aid measures to avoid negative environmental or human impacts.

9.0 STORAGE OF DANGEROUS GOODS

Forest managers/contractors must provide safe and separate storage areas for dangerous goods, such as gasoline drums, oil containers, engine coolants, hydraulic oils, industrial cleaners, paints, resins, preservatives, distillates, chemicals (e.g. pesticides, fungicides, herbicides) etc. Responsible management practices include:

- storage rooms to be concrete floored, walled up, and well ventilated
- entrance(s) to be clearly marked with a sign reading "*warning - hazardous chemical storage – admittance by authorized persons only*", or equivalent phrase

- containers not to be stored on the floor, but to be elevated above ground on pallets or other means, to allow regular inspection and rapid identification of leaks
- all drums/containers to be clearly labeled to indicate the content and with appropriate hazard warnings
- wet products to be effectively separated from dry products
- concrete bunds with a capacity of twice the total storage capacity to be provided around the storage facility
- access to storerooms of toxic materials to be restricted to authorized personnel only
- smoking and open fire strictly forbidden in or adjacent to any storeroom of dangerous goods
- continuous accounting and monitoring of stocks

10.0 DISPOSAL OF DANGEROUS GOODS

Dangerous goods include the whole range of fuel (gasoline/diesel/kerosene), oils, lubricants and other toxic substances, such as hydraulic fluid, engine coolants, industrial cleaners, paints and resins, preservatives (including timber treatment chemicals), distillates, insecticides, fungicides, herbicides, and general contaminated workshop waste, waste oil and contaminated sludge. Any toxic waste should be managed and disposed of through the following procedures:

- Toxic materials are to be collected in containers, securely sealed and preferably returned to the nearest municipal/township disposal areas, or returned to the manufacturer.
- Used lubricant and oil drums, used oil filters, oily rags, empty grease gun cartridges, worn machinery parts, paint tins, etc. shall be removed to a recycling factory, or returned to the supplier. Empty containers may be disposed at a designated disposal area.
- Used oil shall not be dumped in the harvesting areas, but collected and removed to the nearest municipal/township disposal facility.
- All waste pits are to be covered with at least 0.5 m of soil and located at least 100 meters from camp sites and any watercourse / water body and at least 1 meter above the groundwater table
- Excess chemicals are to be either removed from the forest or chemically treated (i.e. neutralized), or returned to the manufacturer for controlled disposal.
- All containers used in the transport, storage and use of toxic chemicals are to be leak proof, marked as "hazardous" and clearly labeled with the contents' name.
- Empty containers are to be safely disposed, and not reused for other purposes.