CAR WORKSHOPS: A SERIOUS GAME APPROACH TO MANAGING WASTE CONSIDERED HAZARDOUS

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IO6-BEST PRACTICE:
“Hazardous waste management in changing oil process”

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1. INTRODUCTION

A correct management of hazardous waste produced while changing oil is fundamental in a car workshop. This best practice is addressed mainly to owners or staff of car workshops or any other worker taking part in the changing oil process. This best practice could be used also by future workers in car workshops, students, trainers, associations or VET Providers.

The document highlights the main risks related to handling and storing used motor oils and indicates actions and strategies to minimize these risks. It supports car workshops in the implementation of strategies to correctly manage used oils, based on the EU Regulation and sustainability principles.

Considering that oils are one of the main hazardous waste produced by car workshops, a correct management of used oils will lead to a safer work area, better environment and a reduction of costs for the companies.

2. BASIC CONCEPTS

Oil: A car workshop produces different kind of waste oils (motor oils, brake fluids, hydraulics oils). This best practice will focus on used motor oils as they are one of the main hazardous wastes produced by a car workshop.

Types of motor oils:

- Full synthetic oil is ideal for vehicles demanding peak level performance and high levels of lubrication. Full synthetic provides higher viscosity levels, resistance to oxidation and thermal breakdown. It also supports improved fuel efficiency and can even increase vehicle horsepower by reducing engine drag.
- Conventional motor oil is the most commonly used oil. Conventional motor oil is ideal for light-duty, late-model cars with low to average mileage.
- Synthetic blend oils includes characteristics of conventional and full synthetic oil, but at a much lower price. Also, synthetic blends make it easy for drivers to make the switch from conventional to synthetic oil, which is why it's becoming increasingly popular among today's drivers.
- High mileage oil is for cars with more than 75,000 miles because it can help reduce oil consumption, minimize leaks and oil seepage - plus it can help reduce smoke and emissions in older engines.

Determining the best motor oil for a vehicle, whether synthetic, synthetic blend, high-mileage or conventional oil - is related to several different factors. Some are external factors such as the climate you live in, driving habits, or even the age of the engine. Other factors are fixed based on your vehicle's engine type and the manufacturer's specifications.

3. CONTENT: CORRECT HANDLING AND STORAGE OF USED MOTOR OILS

The used motor oil and all the contaminated items (oil filters, absorbents, protective clothing etc…) are considered hazardous waste. Below some guidelines to carry out the handling and storage process in the safest way are elaborated.
3.1 Risks of handling used motor oil

Frequent and prolonged contact with used engine oil may cause respiratory problems, dermatitis and other skin disorders, including skin cancer.

Avoid unnecessary contact with used motor oil. Adopt safety systems including protective clothing which should be cleaned and replaced regularly.

To minimize the risks of handling used motor oil:

- Use goggles or face-shield if the potential for splashing exists.
- Wear neoprene, nitrile or PVA gloves to prevent skin contact.
- Wear appropriate protective clothing.
- Use an approved vapour chemical cartridge or supplied air respirators when material produces vapors that exceed permissible exposure limits.
- Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
- Use creams to replace skin oils. ‘Barrier’ creams can be useful in helping to wash away contamination from the skin.

3.2 Precautions during storage of motor oils

Used motor oils must be stored in a proper way in order to minimise the risks for the workers and the environment. The following are storage procedures for used motor oils:

- Store used motor oils in properly closed containers with anti overflow (anti spill systems) that are appropriately labelled. The containers must show: EWC code, status of substances, level of danger, description of the product and hazardous waste pictogram.
- Place the containers in a cool, well-ventilated area. The container should be placed on a waterproof floor, in a containment basin with at least the same capacity of the container. If there are more containers, the containment basin's capacity should be 1/3 of the containers' capacity or at least the same capacity of the biggest container.
• If the storing area is outdoor it should be protected by the weather events.

• It is important not to mix motor oils with other oils, fluids or materials

• Remember that contaminated items like packaging, mechanical parts, absorbent materials or personal protective equipment are considered as hazardous waste and must be handled and stored in a proper way.

4. RECALL

- A not correct handling and storage can cause health and environmental problems

- The personnel must use personal protective equipment to avoid unnecessary contact or inhalation of used motor oil.

- The oil must be stored in specific containers for used oils, appropriately labelled.
- the storage area should be cool, well-ventilated, protected from weather events, with a waterproof floor and a containment basin

- Do not mix different types of oils or fluids

- Contaminated items like packaging, mechanical parts, absorbent materials or personal protective equipment are considered as hazardous waste and must be handled and stored in a proper way.