Resource Recovery

Managing motor and cooking oils at resource recovery centres

Motor oil and cooking oil are classified as a combustible material that could create a fire hazard if not stored correctly. Operators should comply with the Environment Protection Authority Victoria's (EPA's) *Waste Management Policy (Combustible Recyclable and Waste Materials)*.

Key points

- Motor oil and cooking oil need to be collected, stored, transported and processed separately.
- These oils should not be placed in landfill, as they may leak hazardous or toxic materials into the landfill and surrounding environment.
- Oils must be separated from the processing and disposal of general waste so they can be recycled. Hazardous containments in motor oil need to be safely removed for disposal during the recycling process.
- Various acts, regulations, standards and guidelines apply to motor and cooking oils at resource recovery centres and transfer stations.

What are motor and cooking oils?

Motor oil is waste automotive, transmission or sump oil typically generated from servicing cars and farming equipment. Although it gets dirty, used oil can be cleaned and reused after correct disposal.

Cooking oil is waste fats and oils typically generated from homes, cafés and restaurant kitchens. Cooking oil is a valuable organic material and should be recycled for reuse or processing into various products, such as soaps, animal feed, compost and biodiesel.

Potential hazards

If not managed correctly, motor oil and cooking oil contain materials and properties that pose hazards to human health and the environment. These include:

- fire and explosion – motor oils and cooking oils are combustible liquids and can also be contaminated with petrol or other low flash products
- slippery surfaces from spills
- potentially toxic chemicals that can cause skin irritation or other health issues.

Waste motor oils must be treated with great care as in many cases they contain trace levels of low flash products (e.g. petrol, turpentine, paint thinners, solvents etc.), which are flammable liquids that can ignite when exposed to heat or ignition source.

Used motor oil can pollute waterways and soils with hazardous contaminants from use in engines and transmissions including lead, dioxins, benzene and polycyclic aromatics.

Cooking oil can block sewage lines and potentially pollute waterways.

There have been several recent explosions in workplaces, schools and domestic premises because a 205 litre (44 gallon) or smaller metal drum has been used for a purpose other than its intended use, such as makeshift workbenches for welding or cutting other materials. Operators can reduce this risk of injury by complying with a safety alert put out by WorkSafe Victoria in November 2011: Safety alert: Handling used metal drums

Regulations

Some of the acts, regulations, standards and guidelines that apply to the safe handling, storing, transferring, transporting and recycling of motor and cooking oils are listed below.

Occupational health and safety (OHS)	› Occupational Health and Safety Act 2004 › Occupational Health and Safety Regulations 2007 › Compliance code: Hazardous manual handling (WorkSafe Victoria, 2018) › Safety alert: Handling used metal drums (WorkSafe Victoria, 1 Nov 2011)
Environmental	› Environment Protection Act 1970 › Environment Protection (Industrial Waste Resource) Regulations 2009 › Industrial Waste – Classification for unprocessed used cooking fats and oils (EPA Victoria) › Product Stewardship (Oil) Act 2000 (Commonwealth) (refer to the Department of the Environment and Energy and the Oil Stewardship Advisory Council) › Liquid storage and handling guidelines (EPA publication 1698)
EPA waste management policies	› Waste Management Policy (Combustible Recyclable and Waste Materials) (EPA Victoria)

Sustainability Victoria

Dangerous goods storage	› Dangerous Goods Act 1985 › Code of Practice: the storage and handling of dangerous goods (WorkSafe Victoria 2013) › Management and storage of combustible recyclable and waste materials – guideline (Publication 1667.2)
Australian standards	› AS1940:2004 – The storage and handling of flammable and combustible liquids

Accepting oils

When accepting oils at resource recovery centres and transfer stations, apply the following:

Motor oil

- Only accept domestic quantities of oil (20 litres or less per customer, except in rural areas where up to 205 litres (standard 44-gallon drum) can be accepted.
- Separate motor oil from other automotive items or contaminants such as radiator coolant, oil filters, electrical transformers and oily rags.
- Motor oil should not be contaminated with excessive water or other automotive fluids such as brake fluid or radiator coolant.

Cooking oil

- Cooking oil includes waste animal fats or vegetable oils (or blends).
- Only accept domestic quantities of oil (20 litres or less per customer).
- Cooking oil should not be contaminated with excessive water or other substances such as food scraps.

Handling oils

When handling waste motor oil or cooking oil, make sure you:

- keep heat and potential ignition sources away from waste oils storage and handling areas
- ensure containers and drums containing waste oil are not close to or cut with any heat-producing equipment (see WorkSafe Victoria's Safety alert: Handling used metal drums)
- follow the correct safe manual handling and management procedures when handling large/heavy drums or containers (refer to WorkSafe Victoria's compliance code: Hazardous manual handling)
- ensure both operators and customers who decant oil wear appropriate personal protective equipment, including gloves and eye protection
- employ spill management plans at each site to help avoid spills and ensure spills are contained and cleaned up safely
- ensure each facility has on-site staff trained to use suitable firefighting equipment.

Storing oils

Oil storage should meet the EPA's L*iquid storage and handling guidelines* (publication 1698), which replaces *Bunding* guideline (publication 347). The guideline helps businesses with practical controls to ensure liquid substances are appropriately stored and handled to prevent spills.

As a liquid waste, oils require strict management conditions. Some unprocessed used cooking fats and oils are classified as lower risk provided appropriate measures are in place to prevent pollution to the environment. See the EPA's Unprocessed used cooking fats and oils classification.

Motor and cooking oils must be stored separately and in designated, accessible, secure, leak-free and bunded containers or tanks.

Minimise the volume of motor and cooking oils stored on-site and ensure collection occurs within reasonable timeframes (in accordance with any applicable regulations and licensing requirements).

Requirements for storing motor and cooking oils are covered under the relevant dangerous goods storage acts and standards for combustible liquids (refer to AS1940:2004 – The storage and handling of flammable and combustible liquids).

Storage requirements

Apply the following storage standards:

- Store motor oil and cooking oil in suitably labelled areas (refer to Sustainability Victoria's Transfer Station signage library).
- Use standard signage that clearly indicates to users the material accepted, drop-off location, hazards (e.g. flammable) and appropriate and safe disposal methods (e.g. no smoking).
- Ensure tanks:
  - have full rust protection and are hot dip galvanised after fabrication
  - are placed in an open location away from heat sources and any potential ignition sources such as heaters, welding or other spark producing equipment
  - are placed on a flat, impervious surface, preferably a concrete slab
  - are double-skinned and/or incorporate a bund (as per the EPA's Liquid storage and handling guidelines)
  - are fitted with a graduated dipstick or similar device so operators can readily assess the amount of oil in the tank
  - are separated from stormwater drains, battery stores or potential sources of acid leaks or sparks
  - are fully lockable and have adequate safety signs warning 'WASTE OILS' and 'No ignition sources within three metres of the tank'.

- Bunded areas must be roofed and big enough to store emptied containers.
- Provide and maintain spill kits in storage areas and train staff how to use them correctly.
- Ensure users can pour oil into the drop-off tank without using ladders or platforms.
- Do not place flammable liquids (e.g. petrol) in or near the drop-off tank.
- Do not use ignition sources (e.g. cigarettes or mobile phones) within three metres of the tank.
- Avoid storing oils for longer than three months.

Transporting oils

Oils should be collected by EPA-licensed collection contractors with tankers or trucks with safe, secure and leak-free storage containers.

The recycling location should be appropriately licensed for processing motor oil or cooking oil and known to the resource recovery centre/transfer station before transportation.

Reusing and recycling oils

Motor oils and cooking oils are recycled or preprocessed separately from each other.

Motor oils contain valuable materials, which can be reprocessed or refined to remove contaminants, and used to produce lubricants, hydraulic or transformer oils, industrial burners, mould oils and bitumen-based products. Motor oil can also be cleaned for reuse as burner fuel.

Cooking oils are a valuable organic resource and can be reprocessed to make a variety of products, including animal and pet feed, soaps, paints, composting and biodegradable diesel (biodiesel).

Record keeping

Keep records of all oils received and sent for recycling at resource recovery centres and transfer stations. This enables tracking of resource recovery from the site, as well as managing on-site storage and reducing risk of fire.

Record keeping should include:

- recording date, volume and type of oils received at the gatehouse
- a monthly stocktake of oils stored on-site and comparing this to the recommended maximum allowable oil stored on-site
- the volume of oils collected from site by an approved contractor and retaining a copy of the waste transport certificate.

Oil and the circular economy

SV is actively promoting transition to a circular economy and reducing reliance on raw materials in production processes by continuously cycling materials of all types back through supply chains.

Recycling oil creates a closed loop in oil usage as re-refining used oil gives it a new lease of life and lowers our nation's need for virgin-refined oil.

For more information

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