



ERA 20. Metal Recovery

Environmental Protection Act 1994

DEFINITION>>

Metal recovery is the recovering of metal by operating either a scrap metal yard or a facility for dismantling automobiles or mechanical equipment, including debonding brake or clutch components.

VEHICLE OIL AND PARTS REMOVAL>>

Minimise spills and leaks and prevent the contamination of water, soil and groundwater

- Inspect vehicles on arrival for signs of oil leaks and oily/greasy parts. Where there is a risk of an oil leak, seal the leak to stop further leaking or drain the oil from the part.
- Where vehicles contain oils and other potential liquid contaminants either:
 - > remove oils and other potential liquid contaminants and seal any potential leaks,
 - > prevent escape of all oils and other contaminants by taking precautions such as bunding the vehicle storage area.
- Strip down all vehicles and collect and remove waste oil and other contaminants in a dedicated, sealed or contained and covered area that is unaffected by storm water runoff. Always use drip trays to catch any spills.
- Where oil is not drained from an engine, automatic transmission, differential or drive shaft, use control measures to prevent or contain spills/leaks (e.g. use drip trays and/or storage bins with high enough sides to prevent stormwater flow through). Regularly maintain the drip trays and storage areas to prevent spills and leaks.

- Single parts may be removed from vehicles in the yard. However, the operator must:
 - > use a large drip tray or container (which covers the area being worked on) to catch all oil or liquids
 - > have clean up materials for oil and liquid spills on hand at the vehicle
 - > immediately clean up any spills.
- Promptly clean up any oil or liquid spills. Ensure clean up material and equipment to contain and clean up spills are easily accessible.

Minimise the risk of fire hazards

- Avoid the use of sawdust or other readily combustible absorbents

Note: *Oily and greasy rags and oil-soaked sawdust can spontaneously combust if stored in a confined space.*

Ensure proper disposal of potentially hazardous liquids and materials

- Never burn oily/greasy rags and paper, oil soaked absorbents, plastic and rubber.
- Never allow waste oils (including brake fluid, transmission oil and engine oil) to drain into the ground or to areas affected by surface water runoff, such as sewer or stormwater. Never tip waste oils and liquids down sinks, stormwater drains, onto the ground or into trenches.
- Waste oils can either be:
 - > collected and stored separately in appropriate enclosed containers and controlled area and disposed via a licensed waste removalist

- > collected and stored for recycling.

PANEL AND METAL CUTTING>>

Prevent fire hazards and the emissions of fumes and smoke

- Conduct cutting operations that use oxy-acetylene torches away from possible ignition sources such as oils, grease and rubber. This will avoid accidental combustion and dangerous fumes and smoke.
- Use shears or cut-off saws (circular saws with a friction blade) wherever possible during cutting operations.

Minimise airborne dusts and water/soil contamination

- Only use oxy-acetylene for cutting parts that shears or a cut-off saw will not reach. Ensure there are 'no visible emissions' during cutting operations.
- Conduct all cutting operations on a paved and covered surface, or contained area, to facilitate the vacuuming or sweeping up of metal scraps or filings. Items that cannot be cut on a paved or covered surface (e.g. due to their size and/or weight) must be cut in a manner that prevents metal scraps or filings from contaminating surrounding ground or water.

PARTS STORAGE>>

Prevent contamination of soil, stormwater and waterways

- Engines, automatic transmissions, differentials, drive shafts, and other oily and greasy parts must be drained of all waste liquids and stored in a sealed or contained and covered area that is unaffected by surface stormwater runoff.
- Store rusting ferrous metals in a sealed or contained and covered area that is unaffected by surface stormwater runoff.

BATTERIES>>

Minimise accidental contamination of soil and water with hazardous substances

- Store waste/scrap batteries undercover and in a bunded area unaffected by surface stormwater runoff.

- Store drained battery acid in a covered, bunded, acid-proof tank before disposing to a hazardous waste treatment facility via a licensed waste removalist.
- Locate the acid drainage area under cover and bund it to contain spills.

Prevent contamination of soil and water with hazardous chemicals

- Always keep absorbent spill clean-up material nearby for accidental spills.
- Before transporting batteries completely wrap or cover them to prevent exposure to rainfall.

Conserve material resources and prevent hazardous emissions to the atmosphere

- Batteries must only be disposed of to an authorised battery recycler. Under no circumstances can batteries be burnt or buried.

AUTOMOTIVE AIR CONDITIONERS>>

CAUTION! Under the *Environmental Protection Act 1994* it is an offence to release Chlorofluorocarbons (CFCs) into the atmosphere.

Prevent release of CFCs and R12 gases to the environment

If there is a possibility that refrigeration equipment or a motor vehicle's air conditioning system contains CFCs, it must be reclaimed by an accredited person using approved CFC recovery and storage equipment.

- Motor vehicle air conditioning systems must be de-commissioned in accordance with the '*Code of Practice for the Control of Chlorofluorocarbons from Motor Vehicle Air Conditioners*'.
- If you do not have accredited staff and approved CFC recovery and storage equipment available, call an accredited mobile vehicle air-conditioning or refrigeration mechanic to recover all R12 or R11 gases from vehicle air-conditioning systems.

LOADING AND TRANSPORTATION>>

Minimise dust emissions and potential contaminants from exposed surfaces

- Specify speed limits on exposed road surfaces (<40km/hr).
- Regularly water unsealed roads (clean water @ 1-2l/m²). This will prevent dust nuisance from traffic.
 - > Erect barriers to discourage vehicles on unsealed areas.
 - > Seal, turf or cover sites with a dust suppressant to minimise airborne dust. Suppressants include:
 - compacted road base
 - aggregate
 - organic dust-binding agents.
- Never use waste oil or other contaminants as dust suppressant on dirt roads or weed killer. This may lead to the site being notifiable under the *Environmental Protection Act 1994*.
- Immediately clean up material spilt on traffic areas before vehicle movement can move it.
- Regularly collect and place in a sealed bag any floor sweepings, dust, powder waste or absorbent clean up materials, before disposing in a covered waste bin.

PARTS CLEANING AND VEHICLE WASHDOWN>>

Minimise Volatile Organic Compounds (VOCs) emissions into the atmosphere

- Volatile liquids (e.g. solvents):
 - > must be kept cool and stored in a covered container to prevent evaporation into the environment
 - > should be pumped instead of poured.
 - > return solvents unsuitable for reuse to a reputable solvent recycler.
- Dispose of waste solvents and sludges unsuitable for recycling via a licensed waste removalist.

Prevent contamination of stormwater and damage to the sewerage system

- Never discharge wastewater, or let it escape to the stormwater drainage system or the surrounding land.
- Carry out washing in a covered and impervious area that is adequately bunded

and drains to a holding tank or the sewer through a **trade waste approved** treatment system (usually an oil/silt interceptor trap).

Note: *Oil/silt interceptor traps can be installed above or below ground as permanent or mobile installations (e.g. when premises are leased, a mobile system may be preferred).*

- Ensure ongoing maintenance of oil/silt interceptor, including the removal of sludge by a waste removalist.
- Use 'quick-break' degreasing compounds and detergents in wastewater holding tanks to reduce emulsification of oils and other hydrocarbons.
- Only do steam or high-pressure cleaning of parts in a dedicated area such as an approved vehicle washdown bay. This will prevent the release or discharge of contaminants into the environment.

Prevent contamination of stormwater and minimise water usage

- In locations not serviced by Council's sewerage system, collect wastewater in a sump for either:
 - > disposal via a licensed liquid waste removalist
 - > treatment and reuse (Consult with Trade Waste).
 - > Wastewater from on-site treatment systems should be recycled and reused in some areas of operation.

Minimise environmental harm from potentially harmful cleaning compounds

- Use environmentally friendly cleaners and avoid chlorinated solvents such as 1, 1, 1-trichloroethane (TCA) and methylene chloride. Water based cleaners (e.g. alkaline degreasers/detergents) are best.

Note: *The solvent 1, 1, 1 trichloroethane is a controlled substance and must be reclaimed (refer to Schedule 2, Environment Protection Regulation 2008).*

- Where possible clean parts with a brush, rather than cleaning with solvents and aqueous degreasers, such as alkaline or caustic soda.

- Use water pressure cleaning where suitable, and control and collect the wastewater.

RADIATOR HANDLING>>

Ensure proper disposal of potentially hazardous liquids

- Radiator coolant can be:
 - > Directed to the sewerage system under the conditions of a **Trade Waste Permit**
 - > Stored separately in durable, enclosed containers and collected for recycling by a reputable recycler
 - > Treated in the workshop and reused
 - > Disposed of via a licensed waste removalist.
 - > Recycle solid wastes such as cores and tanks.

SHREDDING/FRAGMENTISING OPERATIONS>>

Control air emissions of dusts and vapours

- Never discharge impurities such as dusts from paint, paper, plastics and VOCs to the atmosphere. Use particle filters or water scrubbers to control impurities released from shredding/fragmentising equipment. Control solvent vapours with an activated carbon filter or an afterburner. Bund and cover work areas.
- Only carry out shredding/fragmentising operations where metals and non-metals are being separated (e.g. plastics, rubber, and foam and car linings) where suitable air pollution control equipment is installed.

Prevent contamination of soil, stormwater and waterways

Liquid sludge consists of oils, grease, paint residues, organic solvents and lead released in the shredders or fragmentises. It must be contained and prevented from entering areas affected by surface stormwater runoff.

INSULATED WIRE RECOVERY>>

Protect the air from particles and gaseous emissions

- Never burn plastic or rubber from wire in the open air. Plastic coated wire should only be recovered by mechanical stripping. If mechanical stripping is not feasible and burning is required to remove the insulation material, then it must only be conducted in an approved incinerator with appropriate air pollution control equipment installed.

Minimise waste

- Recycle plastics and rubber recovered from wire stripping/shredding.

Ensure proper disposal of waste material

- Collect accumulated sludge from any wet scrubber systems for recycling, or
- Disposal by a licensed waste removalist.