

# 16. Disposal and Environment

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## Description

Universal Robots robots must be disposed of in accordance with the applicable national laws, regulations and standards. this responsibility rests with the owner of the robot.

UR robots are produced in compliance with restricted use of hazardous substances to protect the environment; as defined by the European RoHS directive 2011/65/EU. If robots (robot arm, Control Box, Teach Pendant) are returned to Universal Robots Denmark, then the disposal is arranged by Universal Robots A/S.

The disposal fee for UR robots sold on the Danish market is prepaid to DPA-system by Universal Robots A/S. Importers in countries covered by the European WEEE Directive 2012/19/EU must make their own registration to the national WEEE register of their country. The fee is typically less than 1€/robot.

You can find a list of national registers here: <https://www.ewrn.org/national-registers>.  
Search for Global Compliance here: <https://www.universal-robots.com/download>.

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## Substances in the UR robot

### Robot arm

- Tubes, Base Flange, Tool mounting bracket: Anodized aluminum
- Joint housings: Powder coated aluminum
- Black band sealing rings: AEM rubber
  - additional slip ring under black band: moulded black plastic
- Endcaps/ lids: PC/ASA Plastic
- Minor mechanical components e.g. screws, nuts, spacers (steel, brass, and plastic)
- Wire bundles with copper wires and minor mechanical components e.g. screws, nuts, spacers (steel, brass, and plastic)

### Robot arm joints (internal)

- Gears: Steel and grease (see the Service Manual)
- Motors: Iron core with copper wires
- Wire bundles with copper wires, PCB's, various electronic components and minor mechanical components
- Joint seals and O-rings contain a small amount of PFAS which is a compound within PTFE (commonly known as Teflon<sup>TM</sup>).
- Grease: synthetic + mineral oil with a thickener of either lithium complex soap or Urea. Contains molybdenum.
  - Depending on model and date of production, the color of the grease could be yellow, magenta, dark pink, red, green.
  - See the Service Manual for handling precautions and to get Grease Safety Data Sheets

### Control box

- Cabinet (enclosure): Powder coated steel
    - Standard Control Box
  - Aluminum sheet metal housing (internal to the cabinet). This is also the housing of the OEM controller.
    - Standard Control Box and OEM controller.
  - Wire bundles with copper wires, PCB's, various electronic components, plastic connectors, and minor mechanical components e.g. screws, nuts, spacers (steel, brass, and plastic)
  - A lithium battery is mounted to a PCB. See the Service Manual for how to remove.
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