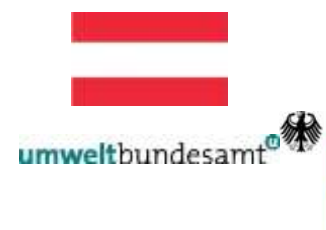




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# Kako uspostaviti sakupljališta za otpad

## How to install waste collection points

Obuka o upravljanju opasnim otpadom za  
eksperte sa lokala

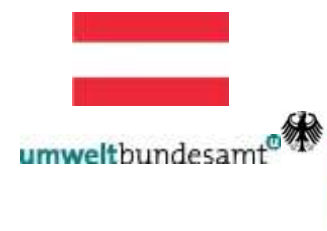
Training on Hazardous Waste Management  
for Municipal Experts



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## Content - Sadržaj

### 1. Installation and organisation of waste collection points

- Legal requirements for waste collection points
- Location and infrastructure
- Technical requirements
- Organisation

### 2. Installation and organisation of hazardous household waste collection points

- Possibilities of the collection
- Technical requirements and design
- Register of collected hazardous household waste
- Organisation and safety
- Information of the public

### 1. Uspostavljanje i organizacija sakupljališta za otpad

- Zakonski uslovi koji se odnose na sakupljališta
- Lokacija i infrastruktura
- Tehnički zahtevi
- Organizacija

### 2. Uspostavljanje i organizacija sakupljališta za opasi otpad

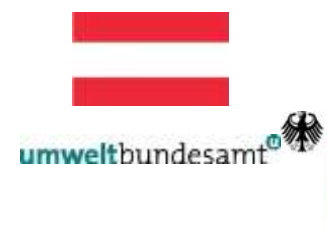
- Mogućnosti za sakupljanje
- Tehnički zahtevi za projektovanje
- Registar sakupljenog opasnog otpada iz domaćinstava
- Organizacija i bezbednost
- Informisanje javnosti



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# Installation and organisation of collection points for waste

- Instalacija i organizacija sakupljališta za otpad



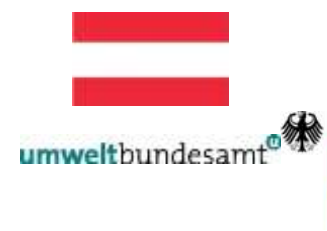
Source: Irschen, Carinthia



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## Two examples from Austria Dva primera iz Austrije

Vienna	
Inhabitants	1.7 Millions
Waste collection points	22
Mobile collection points for hazardous household waste	100

Beč	
Stanovnici	1.7 milions
Sakupljališta za otpad	22
Mobilna sakupljališta za opasni otpad iz domaćinstava	100

Federal State of upper Austria	
Inhabitants	1.5 Millions
Area	12.000 km <sup>2</sup>
Waste collection centres	185

Federalna država gornje Austrije	
Stanovnici	1.5 miliona
Površina	12.000 km <sup>2</sup>
Sakupljališta za otpad	185



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# Legal requirements for waste collection points – Zakonski uslovi za sakupljališta za otpad

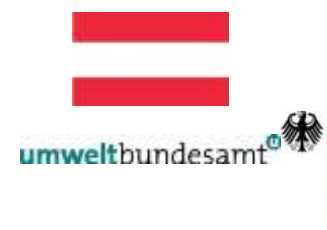
- Law on Waste Management
- Land use planning and regulations
- Building law
- Law (water, nature etc.)
- Zakon o upravljanju otpadom
- Planiranje namene zemljišta i propisi
- Zakon o izgradnji
- Zakoni (voda, priroda, itd.)



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## Location and infrastructure of the collection points – Lokacija i infrastruktura sakupljališta

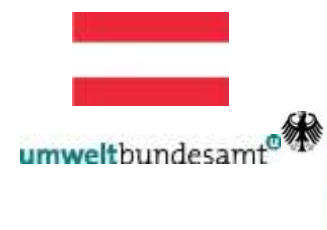
- Easy to reach for the citizens
- Good access possibility
- Industrial estate
- Possibly combination with other municipal facilities
- Connections for electricity, telephone, water, sewage
- Possibility to enlarge  
Lockable
- Građani mogu lako da dođu do sakupljališta
- Dobra pristupačnost
- Industrijski objekat
- Mogućnost kombinovanja sa drugom komunalnom infrastrukturom
- Priklučci za struju, telefon, vodu, kanalizaciju
- Mogućnost proširenja
- Mogućnost fizičkog zatvaranja



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## Location and infrastructure of the collection points – Lokacija i infrastruktura sakupljališta

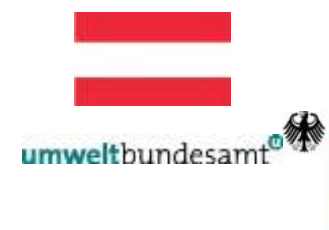
- Fencing with lockable door
- Parking place
- Large drive way and one-way system
- Maneuvering min. 15 m turning circle
- Adequate lighting
- Drainage
- Sufficient working height
- Ograda i vrata sa bravom
- Parking prostor
- Širok pristupni put i jednosmerni sistem
- Manevarski prostor najmanje na 15m od okretnice
- Odgovarajuća rasveta
- Drenaža
- Dovoljno radne visine



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## Area needs of a waste collection point – Prostorni zahtevi za sakupljalište

Collection point	Inhabitants	Area
Small	under 2.000	400 m <sup>2</sup> - 600 m <sup>2</sup>
Medium	2.000-5.000	600 m <sup>2</sup> - 1.200 m <sup>2</sup>
Large	more than 5.000	more than 1.200 m <sup>2</sup>

Sakupljalište	Broj stanovnika	Površina
Malo	Manje od 2.000	400 m <sup>2</sup> - 600 m <sup>2</sup>
Srednje	2.000-5.000	600 m <sup>2</sup> - 1.200 m <sup>2</sup>
Veliko	Više od 5.000	Više od 1.200 m <sup>2</sup>

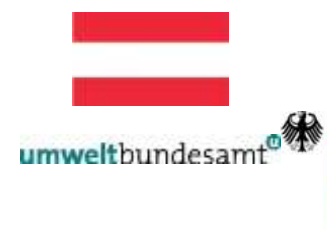




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# Technical requirements – Tehnički zahtevi Components - Komponente

- Ground
- Office and toilet
- Collection point for hazardous household waste
- Roofed area for the collection of recyclables, hall
- Open area
- Zemljište
- Kancelarijski prostor i toalet
- Sakupljalište za opasni otpad iz domaćinstava
- Natkriveni prostor za sakupljanje reciklabila, hala
- Otvoreni prostor



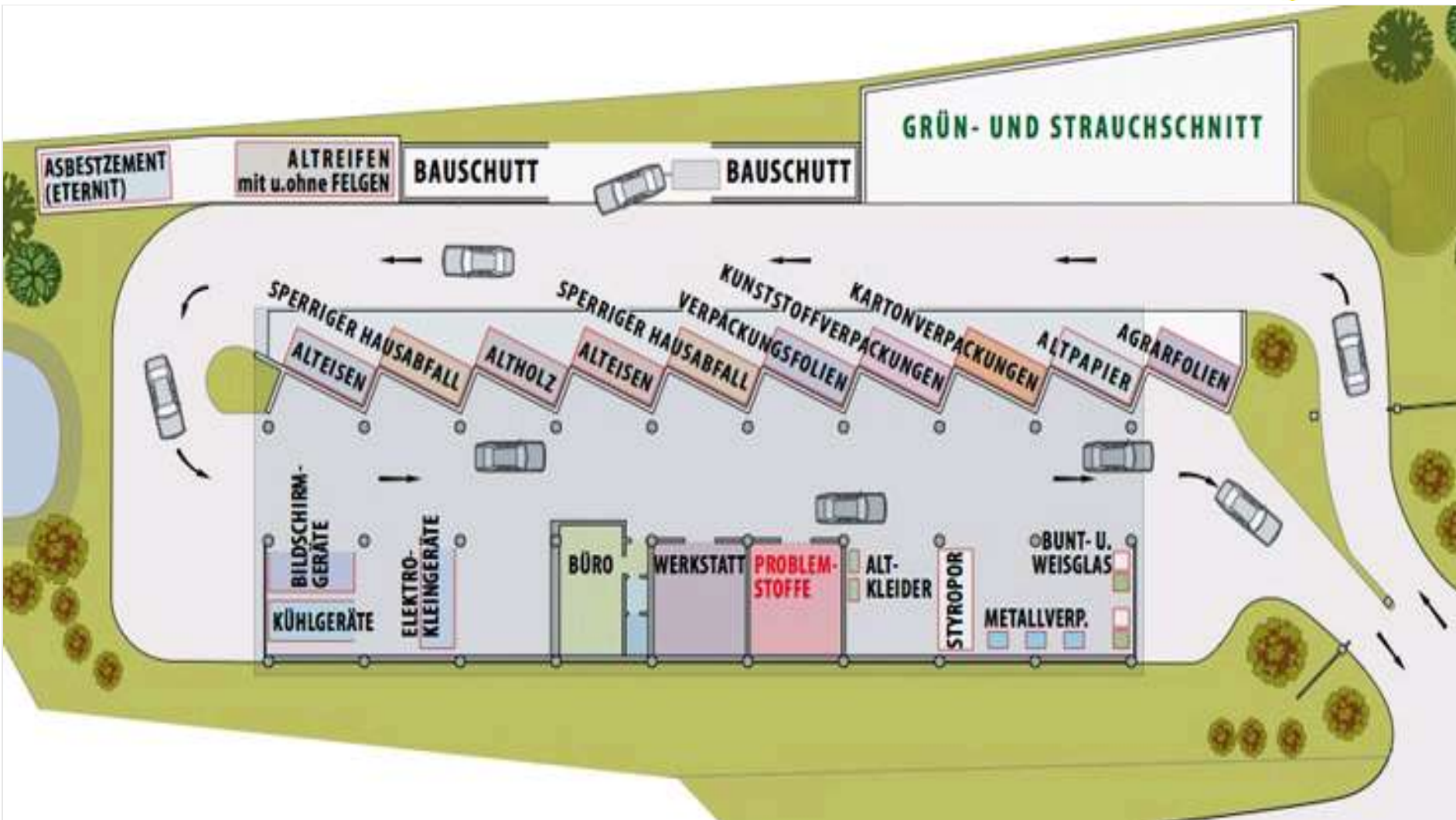
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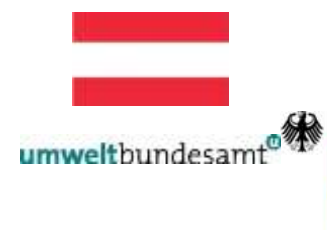




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## Areas for the waste collection – Površine za sakupljanje otpada

Component	Waste
Collection point hazardous household waste	Hazardous household waste, batteries, fluorescent lamps, possibly cooking fat
Roofed area, hall	Paper, plastics, glass, metall, textiles, WEEE, bulky waste
Open area	scrap metal, tree cut, wood

Komponenta	Otpad
Sakupljalište za opasni otpad iz domaćinstava	Opasni otpad iz domaćinstava, baterije, fluorescentne lampe, eventualno jestivo ulje/masnoća
Natkrivena površina, hala	Papir, plastika, staklo, metal, tekstil, otpadni električni i elektronski otpad, kabasti otpad
Otvoreni prostor	Otpadni metal, opiljci, drvo



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Source: Kainbach, Styria



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Source: Leitlinien für die Errichtung und den Betrieb von öffentlichen Altstoffsammelzentren, NÖ Landesregierung, Brunn am Gebirge



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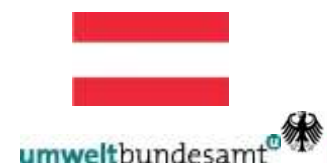
Source: Leitlinien für die Errichtung und den Betrieb von öffentlichen Altstoffsammelzentren, NÖ Landesregierung, Brunn am Gebirge



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Source: Hitzendorf, Styria



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Source: Thal, Styria

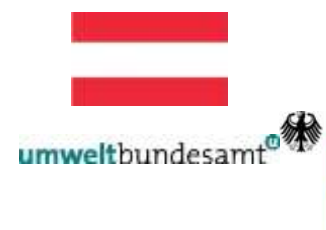




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## Equipment list – Popis opreme

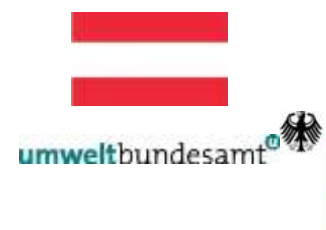
- Weighing machine
- Press
- Stacker truck
- Transport equipment like wheel loader, tractor, loader cran tracks
- Containers
- Vaga
- Presa
- Viljuškar
- Transportna oprema, npr. utovarivač, traktor, kamionska dizalica
- Kontejneri



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## Organisation – Organizacija

- Opening times
- Staff
- Plant regulations
- Radno vreme
- Osoblje
- Propisi u postrojenju



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## Activities of the staff – Aktivnosti osoblja

- Input control and quality control
- Consulting of the citizens
- Data collection
- Transport logistics
- Collection of charges
- Kontrola unosa i kontrola kvaliteta
- Savetovanje građana
- Sakupljanje podataka
- Transportna logistika
- Naplata naknada



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Source: Hitzendorf, Styria



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# Installation and organisation of hazardous household waste collection points

# Uspostavljanje i organizacija sakupljališta za opasni otpad iz domaćinstava





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## Possibilities of the collection – Mogućnosti sakupljanja

- Permanent Collection
  - Room
  - Container
- Mobile collection point
- Stacionarno sakupljanje
  - Prostorija
  - Kontejner
- Mobilno sakupljalište



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## Possibilities of the collection – Mogućnosti sakupljanja

Permanenet collection in container

Stacionarno sakupljanje u kontejnerima



Mobile collection

Mobilna sakupljališta

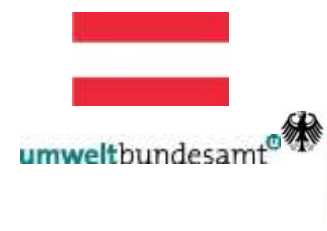




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## Technical requirements and design – Tehnički zahtevi i projektovanje

- Separate places for collection and storage
- Exclusivly, lockable storage of HHW
- No storage of inflammable materials within 4 m
- Fireproof walls and door
- Floor with collecting pan and grating
- Natural or artificial ventialation
- explosion-proof electrical equipment
- Door miminum width 1 m, opening outwards
- Safety and warning signs
- Odvojene površine za sakupljanje i skladištenje
- Strogo odvojene prostorije sa bravom za sakupljanje opasnog otpada iz domaćinstava
- Ne skladište se zapaljivi materijali u krugu od 4 m
- Vatrootporni zidovi i vrata
- Podovi sa tankvanama i rešetkama
- Prirodna ili veštačka ventilacija
- Električna oprema otporna na eksploziju
- Širina vrata najmanje 1m, otvaranje prema spolja
- Znakovi upozorenja i bezbednosti

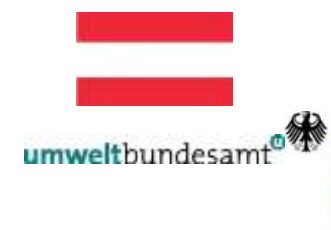




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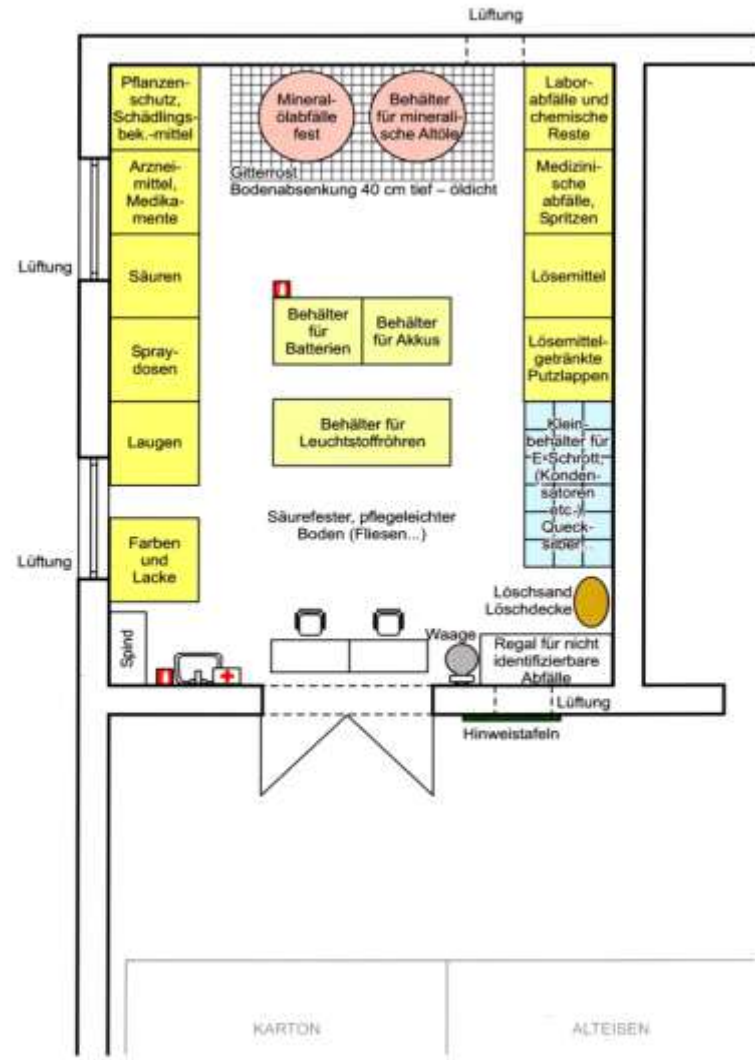


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# Example for a hazardous waste collection room

– Primer prostorije za sakupljanje opasnog otpada

4.1.1 Skizze – Beispiel für Ausstattung einer Problemstoffsammelstelle





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# Safety signs – Znakovi upozorenja i bezbednosti

Problemstoffsammelstellen - Richtlinien  
Beschilderung / Kennzeichnung

## Beschilderung der Problemstoffsammelstellen





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# Room for permanent collection – Prostorija za stacionarno/trajno sakupljanje

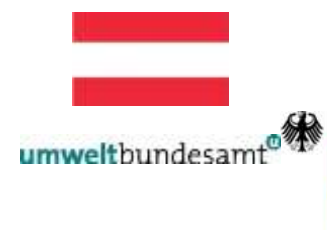




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## Equipment – Oprema

- Collection container with right identification and declaration
- Washing facility
- Safety equipment (first aid material)
- Personal protective equipment
- Universal binder
- Hand fire extinguisher
- Telephone number of rescue, fire department, police
- Information of first aid and specific danger of waste
- Personal protective equipment
- Kontejner za sakupljanje sa odgovarajućom identifikacijom i deklaracijom
- Perionica
- Bezbednosna oprema (prva pomoć)
- Lična zaštitna oprema
- Oprema za uvezivanje
- Ručni aparat za gašenje požara
- Broj telefona spasilačke službe, vatrogasaca i policije
- Informacije o prvoj pomoći i specifičnim opasnim svojstvima nekog otpada
- Lična zaštitna oprema



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# Collection container with right identification and declaration

–

## Bure za sakupljanje otpada sa odgovarajućom identifikacijom i deklaracijom



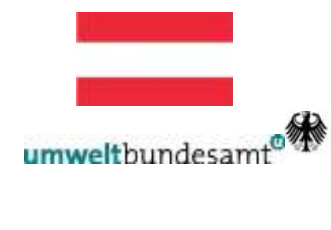
### Kennzeichnung der Stoffgruppen




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# Description of the hazardous household waste – Opis opasnog otpada

## 3 Arzneimittel

- Zu dieser Abfallgruppe gehören:  
 Verschiedenste Altmedikamente in Form von
- Tabletten
  - Salben
  - Tropfen
  - Kapseln
  - Zäpfchen
  - Aerosolen
  - Ampullen



**S** Die ordnungsgemäße Entsorgung von medizinischen Abfällen ist in der ONORM S 2104, ausgegeben am 1. Februar 1999, geregelt.

Definition	Arzneimittel wassergefährdend, schwermetalhaltig (zB Blei, Cadmium, Zink, Quecksilber, Selen), Zystostatica und unsortierte Arzneimittel
Schlüssel-Nr. nach ON S 2100	53510
EU- Abfallkatalog	200131
UN-Nr. nach ADR	3249
Gefahrenzeichen	Gefahrenhinweise, Erste Hilfe-Maßnahmen:   gHg Medikamente belasten die Umwelt durch verschiedene chemische Inhaltsstoffe. Im Allgemeinen besteht für den Umgang in der Problemstoffsammelstelle jedoch keine direkte Gefahr. Medikamente können aufgrund des Alkoholgehaltes entzündlich sein.
Sammlung/ Lagerung	<ul style="list-style-type: none"> <li>• Sammlung und Lagerung der abgegebenen Einzelgebilde in Spannungsfässern.</li> <li>• Beipackzettel und Kartonverpackungen in die Altpapiersammlung geben.</li> </ul>
Behandlung/ Verwertung	Thermische Behandlung in Verbrennungsanlagen für gefährliche Abfälle
Beratung	Apotheken sind aufgrund einer freiwilligen Vereinbarung bereit, Altmedikamente zurückzunehmen.



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## Personal protective equipment – Lična zaštitna oprema

- Acid density protective gloves
- Acid-proof apron
- Face protection goggle at least
- Conductive acid-resistant boots
- Dust mask
- Eye wash bottle (filled, sterile)
- Zaštitne rukavice
- Zaštitna kecelja
- Zaštita za lice, naočare minimum
- Gumene zaštitne čizme
- Maska za usta i nos (sprečavanje udisanja prašine)
- Bočica napunjena sterilnom tečnošću za ispiranje očiju



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## Register of collected hazardous household waste –

### Registar sakupljenog opasnog otpada iz domaćinstava

- Batteries and accumulators
- Solvents and waste containing solvents
- Waste paints and varnishes
- Waste medicines and pharmaceuticals
- Used oils
- Pesticides, herbicides and fertilizer
- Aerosols
- Acid
- Alkali
- Lab chemicals
- Waste mercury
- Baterije i akumulatori
- Rastvarači i otpad koji sadrži rastvarače
- Otpadne boje i lakovi
- Stari lekovi i farmaceutska sredstva
- Otpadno ulje
- Pesticidi, herbicidi i đubriva
- Sprejevi
- Kiseline
- Baze
- Laboratorijske hemikalije
- Otpadna živa

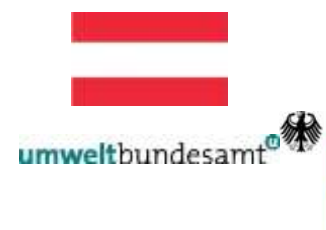




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## Qualification of the staff – Kvalifikovano osoblje

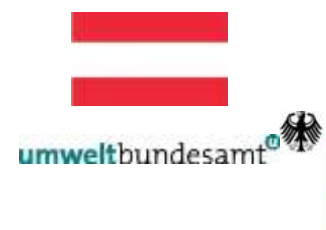
- Knowledge of kinds and risks of hazardous waste
- Chemical basic knowledge
- Waste management basic knowledge
- Knowledge of first-aid
- Knowledge of safety installations
- Knowledge of erasing fire
- Poznavanje vrsta i rizika od opasnog otpada
- Osnovno znanje iz hemije
- Osnovno znanje o upravljanju otpadom
- Poznavanje prve pomoći
- Znanje o sigurnosnim instalacijama
- Znanje o protivpožarnoj zaštiti



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## Information to the public –Informisanje javnosti

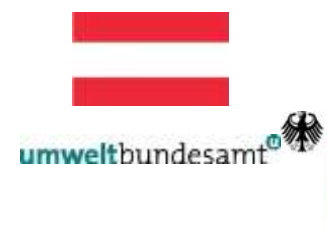
- Prevention like alternative cleaning agent or right dosage
- Right storage: Don't fill in wrong bottles
- Separate collection and transport to the collecting points
- Safety and health
- Preventiva, npr. korišćenje manje opasnog sredstva za čišćenje ili pravilno doziranje
- Pravilno skladištenje: ne puniti pogrešne bočice
- Odvojeno sakupljanje i transport do sakupljališta
- Bezbednost i zdravlje



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# Thank you! Hvala!

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Environment Agency Austria  
[www.umweltbundesamt.at](http://www.umweltbundesamt.at)