

Company Profile



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1. Introduction

Company address:	Dr.-Otto-Neurath-Gasse 7, 1220 Wien
E-Mail:	kontakt@avr-gmbh.at
Homepage:	www.avr-gruppe.at
Company description:	chemical-physical treatment plant for hazardous waste
Management:	DI Reinhard Olbrich DI(FH) Tobias Olbrich Alexandra Olbrich
Employees:	24

2. Company History

- **1990**
AVR GmbH was founded in 1990 by Reinhard Olbrich.
- **1990 – 2000**
process development for highgrade metals recovery (Zinc, Copper, Nickel, Chromium,...)
- **2004**
expansion stage 1: capacity increase to 15.000t per year
- **2009**
expansion of the container/IBC storage capacity to 700t,
expansion and upgrade of the Laboratory
expansion stage 2: capacity increase to 25.000t per year
- **2010**
Integration of the Tank cleaning station into the AVR Group
- **2016**
expansion stage 3: capacity increase to 38.000t per year

3. Substance Groups

Organic Substances:

- Oil-water-mixtures
- Oil-seperator
- Emulsions
- Solvent-water-mixtures (flash point $>55^{\circ}$)
- Synthetic Emulsions
- Glue washing water
- Sand trap contents

Inorganic Substances:

- Acids
- Bases
- Metallic salt concentrates
- Waste Water containing Chromium-VI
- Waste water containing Nitrite
- Various Washing- and processwater

4. Process

Inquiry

- Inquiry by customer

Sample

- A sample of each individual product/substance is necessary for the initial analysis

Analysis

- Examination of processability by laboratory
- Determination of possible processing options for optimal treatment

4. Process

Offer

- Offer submission
- Examination by customer services or engineering for external usability
- Based on the analysis an offer is prepared

Order Preparation

- Order delivery note
- BGLS Document of carriage (dangerous goods)
- Transport assignment

Input

- Container - Assignment to Line 7 – unloading with forklift – weighing at platform scale, sample taking by chemist (retention sample)
- Tank truck – weighing of full truck – control sheet – assignment to designated line (control sheet, sample bottle) – sample taking (retention sample)

4. Process

Analysis

- Identification analysis
- Examination of conformity with initial analysis
- safety assessment
- Classification to process line by laboratory

Storage

- Container – Classification of storage
- Tank truck – arrangement to unloading site
final weighing, hand over of documents, weighing receipt

Treatment

- Creation of formula by laboratory
- Implementation of formula by plant personnel
- Constant monitoring by laboratory with limit values in output compliance
- BATCH treatment
- Treat waste with waste -> save raw material

4. Process

Post Treatment

- Processing of filtration sludge – processing protocol
- Final inspection of filtrate water and if necessary follow-up treatment

Output

- Filter cake – boundary value analysis – goes always either to combustion plant or recycling factory
- Filtrate water – boundary value analysis - Sewer

Post Processing protocol

- All documentation and samples are stored for a minimum of 1 year (samples) or 7 years (documentation)
- Every waste is documented from input, during the treatment until the output

5. Storage Concept

- Only known waste is taken – prior order confirmation is necessary
- Materials with a flash point $<55^{\circ}\text{C}$ is only taken in small quantities and stored according to the storage concept in the storage room for flammable liquids.
- The assignment to a certain storage area is done by the laboratory based on the identification analysis.

Color Safety Codes:

- Green : non flammable, non-oxidizing, cyanide free, pH 3-11, low hazard potential
- Pink : non-flammable, non-oxidizing, cyanide free, $\text{ph}>11$, risk of acid burns, avoid contact with acid
- Orange : non-flammable, non-oxidizing, pH >3 , risk of acid burns, avoid contact with lye
- Yellow : oxidizing material, observe storage area,
- Brown: combustible, flash point $>55^{\circ}$
- Red: combustible, flash point $>55^{\circ}\text{C}$, intended for combustion
- White: non combustible deliveries with $\text{CN}>10\text{mg/l}$

6. Laboratory

- The Laboratory is a central part of the operating system of the AVR
 - Main task: control and monitor the production process
 - Analytical evaluation of initial samples
 - Input control of Waste
 - Creation of recipes for the CP plant
 - Accompanying monitoring of treatment processes
 - Analytical evaluation of the wastewater
 - Output control of waste and the treatment of incurred residues
 - Continuous development of existing processes
 - Developing new processes (research & development)
- The Data collected is managed by IT, and therefore immediately available to all authorized areas of the company.
- The laboratory is equipped with the following analyzers:
 - Gas chromatograph (FID/ECD)
 - Inductively coupled plasma optical emission spectrometry (ICP-OES)
 - Atomic absorption spectrometer (AAS)
 - Spectrophotometer
 - Flash point meter
 - CIR spectrometer

7. Emissions

- **Waste Water:**
 - Double inspection
 - complete BATCH process, there is no continuous discharge
 - filtrate Water is checked and analyzed repeatedly during the main treatment process, the post treatment process and before the Output to the sewer
- **Outgoing Air:**
 - The air from all reactors is extracted directly at its source. The air goes through a alkaline and acidic cleaning process.
 - The air from the inside of the building scutioned off and blown out centrally on the roof.
 - The exhaust air is continually checked and tested by a accredited laboratory
 - VOC (volatile organic compounds)
 - HCl (Hydrogenchloride)
 - NH₃ (Ammonia)
 - BETX (Benzene, Ethylbenzene, Toluene and Xylenes) levels
 - Odour
- **Emissions into the soil** are prevented by a liquid tight and chemically resistant floors in the entire plant.

- The use of the best technology available is the basis for effective environmental protection
- Regular audits of the introduced environmental management system identify weaknesses and improve the effectiveness of the overall system.
- Quality assurance and environmental protection are implemented at all levels of behavioral rules with the corresponding documentation.
- All legal requirements are complied with.
- Customers and suppliers are advised to comply with the environmental regulations.
- Risk assessment provides the core of a successful occupational health and safety system. The aim of the management is to avoid, through technical and organizational measures, any accidents, injuries and property or environmental damage.
- Ongoing development of treatment processes – ongoing innovative partner for industry and commerce

- Certified:
 - ISO 9001:2008
 - ISO 14001:20014
 - BS OHSAS 18001:2007
 - EMAS
 - §10 of the industrial accident regulation (BGBI II No 354/2002)
- Environmental protection is an important long-term objective
- The responsibility for environmental protection is suggested to all employees and aims at continuous improvement.
- A steady improvement in environmental performance and minimizing of the environmental impact will be sought.
- Environmental and safety impact of any new activity and any new procedure is to be assessed and monitored in advance
- The impact of current activities on the local environment and the working conditions is assessed and monitored. This includes the following issues: atmospheric emissions, storage of hazardous and environmentally relevant substances, noise and odor.
- The methods used are regularly examined for possible improvements, so that a continuous improvement of environmental protection is ensured

9. Corporate policy & key objectives

- As a waste management company a basic principle for the AVR is to operate a reputable waste management operation and to be one of the leading companies in Austria in this field.
- We attach particular importance to provide our customers with solutions that meet the following criteria: Ecological sense, economic benefits and legal compliance.
- We see ourselves not only as a waste treatment and management company but also as a competent partner for questions regarding: statutory regulations, in-house waste collection, temporary waste storage, transport logistics
- Key points:
 - Minimize risks – prevent accidents
 - Continuous improvement of the organization
 - Open, collegial and friendly relations between employees
 - Fast response to customer requests
 - Customer oriented work with maximum flexibility
 - Achieve the highest quality complying with legal regulations, safety, environmental and energy factors

11. Research & Development

- R&D is an essential part of the CIP (Competitiveness and Innovation).
- Through R&D technical and/or chemical processes are optimized and adapted or newly developed.
- Trigger for R&D projects can be legal, customer or competitive requirements.
- In addition new methods will be developed to set new technical standards (for example recycling of heavy metals).
- Current research projects:
 - Operator concept for the treatment of rinse water directly at the customers plant location
 - Procedure to treat rinse water of companies who do surface treatments like Plansee, Swarovski, Traibacher,
 - The objective is to treat the rinse water so that 90% of it can be reused in the production process and only 10% will be Output.

Thank you for your attention!