

Presentation of the case study

Use of REACH/CLP information at industrial sites

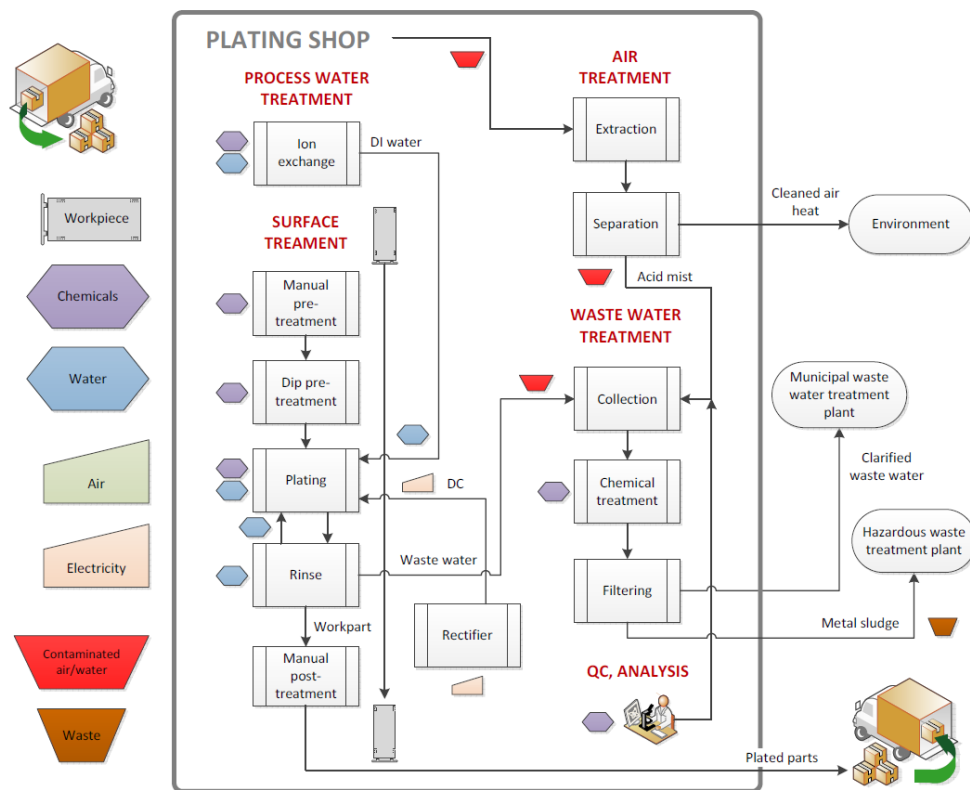
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The use of information generated by REACH/CLP to ensure safe use of chemicals

Nickel electroplating: a case study



Aims

- Illustrate potential use of information
- Practical and realistic angle
- Typical process where chemicals are used: wide range of chemical types and hazards, and process operations typical to many sites
- Possibility to apply learnings to other industry sectors
- Draws on information publically available (generic exposure scenarios, SDS)

Scope

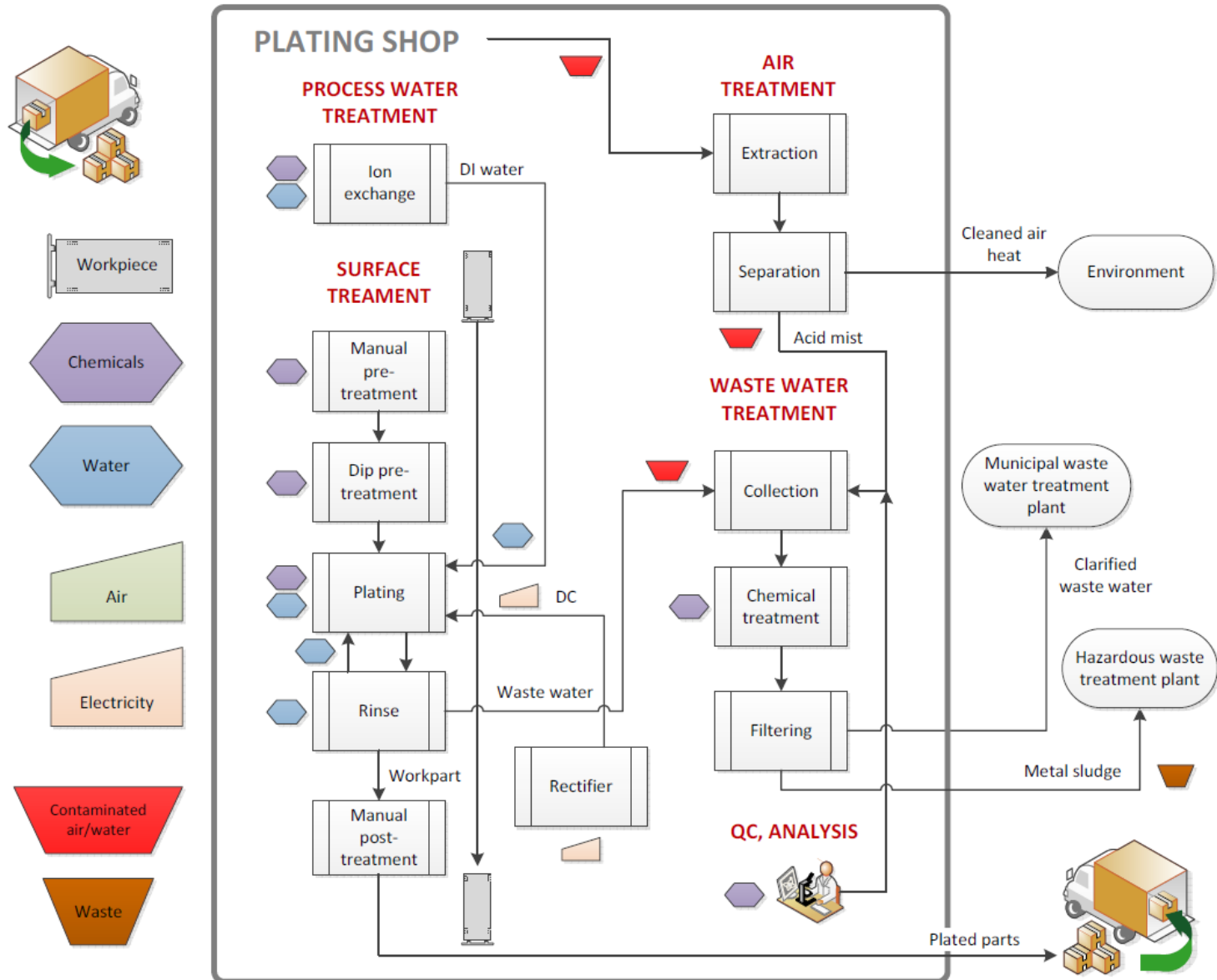
REACH/CLP information use in other legislative contexts at (downstream) end-user site

- Industrial Emissions Directive (IED)
- Chemical Agents Directive (CAD)
- Carcinogens and Mutagens Directive (CMD)
- Practical approach, using real life SDS/ES
- EU level – not dealing with national differences

Structure

- A. Description of the company, processes, control measures and legal requirements considered

- B. Where REACH/CLP information can support the certain compliance activities



A. Legal requirements

- Ground for being subject to
- Overview of main obligations of DU (REACH), operators of installations (IED), employers (CAD/CMD)
- Illustration of information use (compliance activities)
 - down to legal text of directives, focus to where chemical related information can be useful

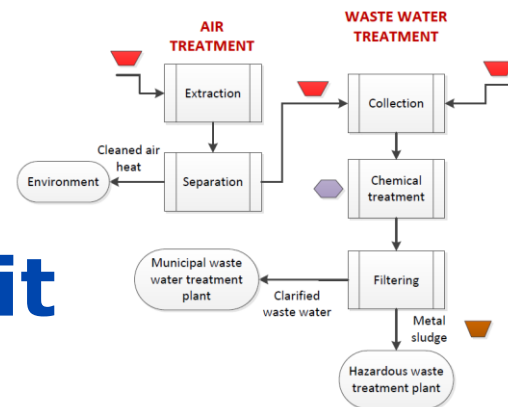
No guidance on how to comply with legal requirements but showing where REACH information can be used to support compliance

B. Illustration of use of information

- Application for an IED permit
- CAD/CMD workplace risk assessment
- Information and training for workers
- Risk management of daily operations

Not a guidance on how to comply with legal requirements

Application for an IED permit



- Safety data sheet
 - sections 1.1, 1.2, 2.1, 2.3, 3, 8.2, 9, 12, 13.1
- Exposure Scenario
 - Technical and organisational conditions and measures
 - Conditions and measures related to treatment of waste (including article waste)

Contain relevant information

Application for an IED permit

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Waste water:

On-site wastewater treatment in a physico-chemical treatment plant by chemical precipitation, sedimentation, filtration or a combination. (Efficiency: 95 - >99%)

Off-site waste water treatment plant, community sewer system for ES 1 (Efficiency 40%)

ES1 freshwater discharge to STP: 3779 g/T (median)

ES2 freshwater direct discharge: 3779 g/T (median)

ES3 marine direct discharge: 3779 g/T (median)

Air:

Treatment of stack air emission by wet scrubbers. (Efficiency 99%)

ES1, 2 & 3: Release factor after on-site treatment: 1133 g/l (median)

Description of the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation.

ES

GES 10, Nickel Consortia

Application for an IED permit

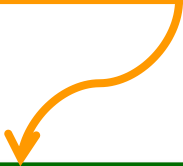
Conditions and measures related to external treatment of waste for disposal

Hazardous wastes from onsite risk management measures and solid or liquid wastes from production, use and cleaning processes should be disposed of separately to hazardous waste incineration plants or hazardous waste landfills as hazardous waste. Releases to the floor, water and soil are to be prevented. If the nickel content of the waste is elevated enough, internal or external recovery/recycling might be considered.



ES

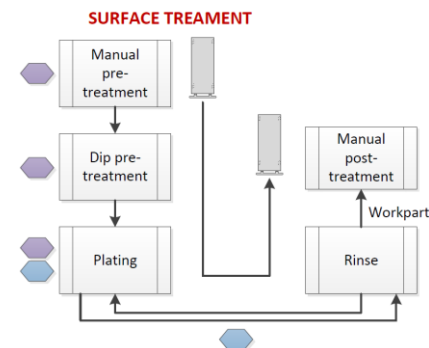
GES 10, Nickel Consortia



Description of the measures for the prevention, preparation for re-use, recycling and recovery of waste generated by the installation.

CAD/CMD workplace risk assessment

- Safety data sheet
 - sections 2, 3, 4, 7, 8, 9, 10, 11
- Exposure Scenario
 - Title section
 - Amount used, frequency and duration of use (or from service life)
 - Worker contributing scenarios
 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES



Contain relevant information

Workplace risk assessment

SECTION 2. HAZARDS IDENTIFICATION

- 2.1** Classification of the substance or mixture
1272/2008 (CLP)
 Skin Sens. 1, H317
 STOT RE 1, H372
 Carc. 2, H351
67/548/EEC - 1999/45/EC
 T; R40-43-48/23
- 2.2** Label elements
 CLP Article 23 d labelling derogation
1272/2008 (CLP)
 GHS07 - GHS08
 Signal word **Danger**
Hazard Statements
 H317 May cause an allergic skin reaction.
 H372 Causes damage to lungs through prolonged or repeated exposure by inhalation.
 H351 _Suspected of causing cancer via inhalation.
Precautionary Statements
 P202 Do not handle until all safety precautions have been read and understood.
 P281 Use personal protective equipment as required.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- 2.3** Other hazards
 The PBT and vPvB criteria of Annex XIII to the regulation does not apply to inorganic substances.

Identification of main concerns for the human health.



Workplace risk assessment

Processes, tasks, activities covered
(workers)

Contributing exposure scenario ES 10.1
{PROC 3: Use in closed batch process (synthesis or formulation)}
PROC 4: Use in batch and other process (synthesis) where
opportunity for exposure arises
PROC: 5 Mixing or blending in batch processes
for formulation of preparations* and articles (multistage and/or significant
contact) :
PROC 8a: Raw material handling
PROC 8b: Transfer of substance or preparation
PROC 13: Plating operations
PROC 15: Use as a laboratory reagent
Contributing exposure scenario ES 10.2:
PROC 0: Cleaning and maintenance

ES

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Identification of who may
be exposed to the
substance.

Technical conditions and measures at process level (source) to prevent release

Anodes should be bagged where possible to prevent the release of Ni dust or chips into the tank solution which are then contacted by workers.

Anode stubs, removed from the tank solution during anode replacement, should not be left lying around the shop floor and RPE should be used if dust is released during the cutting of stubs for recycling in anode baskets.

Oral: Good workplace hygiene practice.

Technical conditions and measures to control dispersion from source towards the worker

LEV is required for raw materials handling if Ni anodes are dusty

Organisational measures to prevent/limit releases, dispersion and exposure

Training to reinforce good workplace hygiene practice and hygiene issues.

Conditions and measures related to personal protection, hygiene and health evaluation

Inhalation: Air-assisted filtering visor, masks or hood with P3 filter element (Assigned Protection Factor ~20 based on use of powered respirator meeting EN12492 requirement or FFP3 (EN149) or equivalent suitable respirator) is required for emergencies and non-routine tasks e.g. cutting anode stubs where exposure to $(\text{Ni}(\text{C}_2\text{H}_3\text{O}_2)_2)$ containing mist or dust is possible e.g. spills or leaks from breaches in transfer systems. It is important to note that FFP1 (EN149) (APF = 4) is not recommended for use with Ni-containing dust.

Dermal: Suitable gloves (EN 374, protection level 6, PVC or equivalent), and goggles. Safety clothing should be chosen based on activities being undertaken, potential for aerosols and other relevant workplace hazards may include protective suit with hood and safety shoes (e.g. according to EN 20346).

Identification of RMM, technical and organisational measures to prevent exposure to workers during specific task

Information and training for workers

- Safety data sheet
 - sections 2, 4, 5, 6, 7, 8.2, 13.1, 16
- Exposure Scenario
 - Worker contributing scenarios
 - Environment contributing scenario

Contain relevant information

Information and training for workers

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid dust formation. Avoid contact with skin and eyes. Do not wear contact lenses. Use personal protective equipment. Provide for appropriate exhaust ventilation and dust collection at machinery. For more information please see the relevant exposure scenario, available via your supplier/given in the Appendix, and check section 2.1: Control of worker exposure. Note also Directive 90/269/EEC.

7.2 Conditions for safe storage, including any incompatibilities

Keep in a dry place. Avoid: Exposure to air or moisture over prolonged periods. Keep away from acids, significant quantities of paper, straw, and nitro compounds. Keep out of the reach of children. Do not use aluminium for storage if there is a risk of contact with water.

7.3 Specific end use(s)

Please check the identified uses in table 1 of the Appendix of this SDS.



SDS

SDS Slaked lime



Normal working condition.

Information and training for workers

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SDS

SDS Hydrofluoric acid

Response to accidents
(exposure, fire, spillage).

Risk management of daily operations

- Safety data sheet
 - Front page and sections 16
- Exposure Scenario
 - No standardised agreed method to flag changes

Breakout discussions

- Mechanism
 - 4 groups of ~10, mixed expertise, ECHA facilitator, notes taking, rapporteur
- Discussion subjects
 - Key chemical related information needed
 - Is this information provided
 - Influence of incoming information within companies
 - Support needed, next steps
- Panel discussion with rapporteurs

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