

FS Section	Content field
1. Title	1.1 Industrial use of Me-salts in surface treatment of metals and plastics – Zinc, Chromium, Copper, Manganese
	1.2 AISE SPERC 5.1.b.v3
2. Scope	2.1 Substance/Product Domain
	Substance types / functions / properties included or excluded: Covers the use of Zinc-, Chromium, Copper-, Manganese- salts in metal surface Coating applications
	Additional specification of product types covered: broad range of specific applications, e.g. surface treatment, metal treatment, surface finishing, conversion coating, corrosion inhibition etc.
	Inclusion of sub-SPERCs: n
	2.2 Process domain
	Description of activities/processes: includes the core process of treating metal surfaces and/or plastics (e.g. Phosphating, Coil coating, Electroplating, Anodizing, Autocatalytic plating) as well as those processes required to support the core process such as storing, mixing, equipment cleaning, maintenance and associated laboratory activities. The treatment of the metal parts can occur by dipping, rolling or by spraying. Product applied in aqueous process solution with negligible volatilization.
	2.3 List of applicable Use Descriptors
	LCS: IS
	SU: 0
	PC: 14
3. Operational conditions	3.1 Conditions of use
	Location of use: indoor
	Water contact during use: y
	Connected to a standard municipal biological STP: y
	Rigorously contained system with minimisation of release to the environment: n
	Further operational conditions impacting on releases to the environment: Industrial applications of water borne conversion coatings vary in daily consumption of application fluid, product concentrations and product dilutions. They can typically be described by the following conditions:
	<ul style="list-style-type: none"> The metal salts are dissolved in a water-borne application fluid, which is kept in a reservoir or treatment baths. It is pumped to dedicated machine(s) in order to be applied to the substrate or it is kept in a bath. With each piece of substrate a fraction of the application fluid is carried-over from the treatment bath. Via a sequence of rinsing steps this fraction of the application fluid is continuously emitted to the wastewater.
	<ul style="list-style-type: none"> Spray applications are housed-in for the sake of worker protection
	<ul style="list-style-type: none"> Optimized water use due to e.g.: Re-use of rinsing water
	<ul style="list-style-type: none"> Periodically, the reservoirs are emptied of the spent reservoir fluid and refilled with fresh reservoir fluid. Operators minimize the frequency of exchanging the reservoir fluid to reduce the cost of process chemicals, waste treatment and equipment downtime.
	3.2 Waste Handling and Disposal
4. Obligatory RMMs onsite	Waste Handling and Disposal:
	- spill protection including waste reuse
	- the treatment of the spent process fluids by pH-adjustment and/or subsequent filtration/sedimentation results in slurries or solid waste which is treated off-site.
	RMM limiting release to air: none
	RMM Efficiency (air): n/a
	Reference for RMM Efficiency (air): n/a
	RMM limiting release to water: pH adjustment and/or precipitation e.g. by air flotation and/or filtration or other suitable techniques. Sites are operated to meet the local requirements for emissions of metals.
	RMM Efficiency (water): 99%
	Reference for RMM Efficiency (water): cf. AISE Background document
5. Exposure Assessment Input	RMM limiting release to soil: none
	RMM Efficiency (soil): n/a
	Reference for RMM Efficiency (soil): n/a
	5.1 Substance use rate
	Amount of substance use per day: The indicative worst case substance use rates (M_{SPERC}) of several ingredient types and guidance for refinement can be found in background documentation.
	Fraction of EU tonnage used in region: n/a
	Fraction of Regional tonnage used locally: n/a

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	Justification / information source: cf. AISE Background document
	5.2 Days emitting
	Number of emission days per year: 300
	Justification / information source: cf. AISE Background document
	5.3 Release factors
	sub-SPERC identifier: n/a
	ERC: 5
	sub-SPERC applicability: n/a
	5.3.1 Release Factor – air
	Numeric value / percent of input amount (Air): 0%
	Justification of RFs (Air): cf. AISE Background document
	5.3.2 Release Factor – water
	Numeric value / percent of input amount (Water): 1%
	Justification of RFs (Water): cf. AISE Background document
	5.3.3 Release Factor – soil
	Numeric value / percent of input amount (Soil): 0%
	Justification of RFs (Soil): cf. AISE Background document
	5.3.4 Release Factor – waste
	Percent of input amount disposed as waste: 5-99%
	Justification of RFs: cf. AISE Background document
References to SPERC Background Document ¹	
	Ref. A.I.S.E, International Association for Soaps, Detergents and Maintenance Products. 2020. ENVIRONMENTAL EMISSIONS OF METALS IN INDUSTRIAL SURFACE TREATMENT Background document

¹ The objective of this factsheet is to summarize the SPERC key facts provided in the corresponding SPERC background documents. It gives an overview of the SPERC essentials for the chemical safety assessment. A SPERC background document is a reference document, which provides the description of the emission situation(s) for a use specified by an industrial sector, the justification and applicability domain of the environmental release factors, and the references/information sources/methods used in the derivation of the release factors.