

HCl Identified Uses - Tabel 21 from chapter 9 CSR

ES Number	IU Number	Short description of Identified Use	Volume (tonnes)	Manufacture	Formulation	Identified uses			Resulting life cycle stage		SU	PC	PROC	ERC
						Industrial	Professional	Consumer use	Service life (for articles)	Waste stage				
<b>Manufacture, Recycling &amp; Distribution</b>														
<b>ESI</b>	M1	Manufacture of HCl in gaseous and liquid form (Manufacture of the substance including storage, maintenance, sampling and associated laboratory activities)		X		X					3,8,9	n.a.	1,2,3,4,15	1
	M2	Recycling of HCl				X					3,8,9	n.a.	1,15	1
	M3	Distribution of the substance (Industrial) (Loading (including marine vessel/barge, rail/road car and IBC loading) and re packing (including drums and small packs) of substance)					X				3,8,9	n.a.	8a, 8b, 9	1 (loading) 2 (repackaging)
<b>Use as Intermediate by Industry</b>														
<b>ES2</b>	I01	Intermediate						X			3, 4, 8, 19		1, 2, 3, 4, 9, 15	6A

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		(for the production of bulk, large scale chemicals, fine chemicals, soaps & detergents; pharmaceuticals; food products; cosmetics; fine chemicals, etc.									9, 11, 14, 13, 19				
<b>Formulation &amp; Re-packing of HCl and its formulations by Industry &amp; by Professionals</b>															
ES1	102	Formulation & (re) packing of substances and mixtures (Industrial) (washing and cleaning products, etching products, etc.)			X	X					10	20, 35, 37	1,2,3,4,5,8a,8b,9		2
<b>Use of HCl &amp; Formulations by Industry</b>															

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ES4	I03	Use as pH-regulator, flocculant, precipitant, neutralization agent (industrial) (- in the production of formulations like washing & cleaning products, metal working fluids, etc.; - in the production of chemicals and articles; base and precious metals, brine treatment in chloralkali electrolysis, dyestuffs, - production of food- & feed - regeneration of ion-exchange resins, - treatment of waste, - conductive agent, - metal surface treatment ...)				X					3, 4	20	1,2,3,4 <sup>1</sup> ,9,19	6B

<sup>1</sup> The use of PROC4 in this scenario (Use of HCl & Formulations by Industry) is questionable, but was requested by several users

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	I04	Use as pH regulator, flocculant, precipitant, neutralization agent, etc. (in the mining and offshore industries, e.g. acidification of wells / drilling muds for the extraction of crude petroleum)				X					2a, 2b	20	1,2,3,4,9	6B
	I05	Use as washing and cleaning agent (in the manufacture of textiles, leather, fur, etc.)				X					5	34, 35	1,2,3,13	4
	I06	Use as washing and cleaning product (etching, rust removal, etc.)				X					3, 14, 15, 16	35	10, 13	4, 6B
	I07	Use as water treatment chemical by industry (treatment of fresh water, cooling water and sewage, intermediate for the generation of ClO2 for water disinfection)				X					3	37	1,2,3,4,13	4, 6B

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	IU8	Use as laboratory chemical (industrial)				X					3	21	15	4
<b>Use of HCl &amp; Formulations by Professionals</b>														
<b>ESS</b>	IU9	Use as pH-regulator, flocculant, precipitant, neutralization agent, etc. by Health Services						X			20	20	1,2,3,13	8b
	IU10	Use as cleaning agent (for removal of lime, cement & rust from bricks, tiles, as descaling agent, etc.)						X			22	35	8a, 10, 11, 13, 19	8b, 8e
	IU11	Use as cleaning agent (sanitary cleaner, etc.)						X			20, 22	35	10, 13, 19	8b, 8e
	IU12	Use for water treatment by professionals/public domain (treatment of fresh & swimming pool water, cooling water and sewage, intermediate for the generation of ClO2)						X			22, 23	37	1,2,3,4,13	8b, 8e

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						Industrial	Professional	Consumer use	Service life (for articles)	Waste stage	SU				
		for water disinfection)													
	IU13	Use as pH-regulator, flocculant, precipitant, neutralization agent, etc. (regeneration of ion-exchanges resins; backwashing of filter beds in water treatment units, waste treatment, etc.)					X				22, 23	20	1,2,3,13		8b, 8e
	IU14	Use as laboratory chemical (professional)					X				22, 23	21	15		8a
<b>Use of HCl &amp; Formulations by Consumers</b>															
<b>ES6</b>	IU15	Use for water treatment (for swimming pools)						X			21	37	n.a.		8b, 8e

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	IU16	Use as pH-regulator, flocculant, precipitant, neutralization agent, etc. (regeneration of ion-exchange resins, backwashing of filter beds, etc. in domestic and mobile water treatment units)						X			21	20	n.a.	8b, 8e
	IU17	Use as cleaning agent (removal of lime, cement & rust from bricks, tiles, etc.)						X			21	35	n.a.	8b, 8e
	IU18	Use as cleaning agent (sanitary cleaner, etc.)						X			21	35	n.a.	8b, 8e
	IU19	Use as reagent in experimental kits						X			21	21	n.a.	8b
	IU20	Use in welding and soldering products						X			21	38	n.a.	8b