

Ammonia, anhydrous



Map of identified uses

EXPOSURE SCENARIO	SECTOR OF USE (SU)	PREPARATION CATEGORY (PC)	PROCESS CATEGORY (PROC)	ARTICLE CATEGORY (AC)	ENVIRONMENTAL RELEASE CATEGORY (ERC)
Manufacturing of anhydrous ammonia Manufacture	SU 8 Manufacture of bulk, large scale chemicals (including petroleum products)	Not applicable	PROC 1 Use in closed process, no likelihood of exposure	Not applicable	ERC 1 Manufacture of substances
	SU 9 Manufacture of fine chemicals		PROC 2 Use in closed, continuous process with occasional controlled exposure Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities		
	NACE C 20.1.5 Manufacture of fertilisers and nitrogen compounds		PROC 8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities		
Distribution and formulation of anhydrous ammonia Formulation	SU 1 Agriculture, forestry, fishery	Not applicable	PROC 1 Use in closed process, no likelihood of exposure	Not applicable	ERC 2 Formulation of preparations*
	SU 10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)		PROC 2 Use in closed, continuous process with occasional controlled exposure PROC 3 Use in closed batch process (synthesis or formulation) PROC 4 Use in batch and other process (synthesis) where opportunity for exposure arises Mixing or blending in batch processes for formulation of preparations* and articles (multistage and/or significant contact) PROC 5 Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities		



	SU 24	Scientific research and development		<p>PROC 8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC 9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC 15 Use as laboratory reagent</p>		
<p>Industrial uses of anhydrous ammonia as an intermediate</p> <p>Formulation Industrial and/or wide dispersive</p>	<p>SU 1 Agriculture, forestry, fishery</p> <p>SU 5 Manufacture of textiles, leather, fur</p> <p>SU 8 Manufacture of bulk, large scale chemicals (including petroleum products)</p> <p>SU 9 Manufacture of fine chemicals</p> <p>SU 12 Manufacture of plastics products, including compounding and conversion</p> <p>SU 15 Manufacture of fabricated metal products, except machinery and equipment</p> <p>SU 24 Scientific research and development</p> <p>NACE C 21 Manufacture of basic pharmaceutical products and pharmaceutical preparations</p>	Not applicable	<p>PROC 1 Use in closed process, no likelihood of exposure</p> <p>PROC 2 Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3 Use in closed batch process (synthesis or formulation)</p> <p>PROC 4 Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 5 Mixing or blending in batch processes for formulation of preparations* and articles (multistage and/or significant con-tact)</p> <p>PROC 8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC 8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC 9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p>	Not applicable	ERC 6a	Industrial use resulting in manufacture of another substance (use of intermediates)

	NACE C 20.1.5	Manufacture of fertilisers and nitrogen compounds		PROC 15	Use as laboratory reagent			
<p>Industrial end-use of anhydrous and aqueous ammonia (processing, non-processing aids, auxiliary agent)</p> <p>Industrial and/or wide dispersive</p>	SU 4	Manufacture of food products	Not applicable	PROC 1	Use in closed process, no likelihood of exposure	Not applicable	ERC 4	Industrial use of processing aids in processes and products, not becoming part of articles
	SU 5	Manufacture of textiles, leather, fur		PROC 2	Use in closed, continuous process with occasional controlled exposure			
	SU 6a	Manufacture of wood and wood products		PROC 3	Use in closed batch process (synthesis or formulation)			
	SU 6b	Manufacture of pulp, paper and paper products		PROC 4	Use in batch and other process (synthesis) where opportunity for exposure arises			
	SU 7	Printing and reproduction of recorded media		PROC 5	Mixing or blending in batch processes for formulation of preparations* and articles (multistage and/or significant con-tact)		ERC 5	Industrial use resulting in inclusion into or onto a matrix
	SU 8	Manufacture of bulk, large scale chemicals (including petroleum products)		PROC 7	Industrial spraying		ERC 6b	Industrial use of reactive processing aids
	SU 11	Manufacture of rubber products		PROC 8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities			
	SU 12	Manufacture of plastics products, including compounding and conversion		PROC 8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities			
SU 13	Manufacture of other non-metallic mineral products, e.g. plasters, cement	PROC 9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)					
SU 15	Manufacture of fabricated metal products, except machinery and equipment	PROC 10	Roller application or brushing					

	SU 16 SU 23 NACE C 28.2.5	Manufacture of computer, electronic and optical products, electrical equipment Electricity, steam, gas water supply and sewage treatment Manufacture of non-domestic cooling and ventilation equipment		PROC 13 PROC 15 PROC 19	Treatment of articles by dipping and pouring Use as laboratory reagent Hand-mixing with intimate contact and only PPE available		ERC 7	Industrial use of substances in closed systems
Wide dispersive end-use :Professional uses of anhydrous and aqueous ammonia Industrial and/or wide dispersive	SU 1 SU 10 SU 23	Agriculture, forestry, fishery Formulation [mixing] of preparations and/or re-packaging (excluding alloys) Electricity, steam, gas water supply and sewage treatment	Not applicable	PROC 1 PROC 2 PROC 3 PROC 4 PROC 5 PROC 8a PROC 8b PROC 9	Use in closed process, no likelihood of exposure Use in closed, continuous process with occasional controlled exposure Use in closed batch process (synthesis or formulation) Use in batch and other process (synthesis) where opportunity for exposure arises Mixing or blending in batch processes for formulation of preparations* and articles (multistage and/or significant con-tact) Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Not applicable	ERC 8a ERC 8b ERC 8d ERC 8e ERC 8f	Wide dispersive indoor use of processing aids in open systems Wide dispersive indoor use of reactive substances in open systems Wide dispersive outdoor use of processing aids in open systems Wide dispersive outdoor use of reactive substances in open systems Wide dispersive outdoor use resulting in inclusion into or onto a matrix

			PROC 10 Roller application or brushing PROC 11 Non industrial spraying PROC 13 Treatment of articles by dipping and pouring PROC 15 Use as laboratory reagent PROC 18 Greasing at high energy conditions PROC 19 Hand-mixing with intimate contact and only PPE available		ERC 9a Wide dispersive indoor use of substances in closed systems ERC 9b Wide dispersive outdoor use of substances in closed systems Wide dispersive indoor use of long-life articles and materials with low release ERC 11a
Wide dispersive end-use: Consumer uses of aqueous ammonia Consumer use Service life (for articles)	Not applicable	PC 9a Coatings and paints, thinners, paint removers PC 9b Fillers, putties, plasters, modelling clay PC 9c Finger paints PC 1 Adhesives, sealants PC 12 Fertilizers PC 16 Heat transfer fluids PC 18 Ink and toners Products such as ph-regulators, flocculants, precipitants, neutralization agents PC 20 Leather tanning, dye, finishing, impregnation and care products PC 23	Not applicable	Not applicable	ERC 8a Wide dispersive indoor use of processing aids in open systems ERC 8b Wide dispersive indoor use of reactive substances in open systems Wide dispersive outdoor use of processing aids in open systems ERC 8d Wide dispersive outdoor use of reactive substances in open systems ERC 8e Wide dispersive outdoor use of reactive substances in open systems ERC 8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 9a Wide dispersive indoor use of substances in closed systems

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		PC 35	Washing and cleaning products (including solvent based products)			ERC 9b	Wide dispersive outdoor use of substances in closed systems
		PC 37	Water treatment chemicals				
		PC 39	Cosmetics, personal care products				
		UNC CODE A40200	Cooling agents			ERC 11a	Wide dispersive indoor use of long-life articles and materials with low release

* **Please note:** For the sake of consistency with the descriptor system in IUCLID 5.2, in these lists the term "preparation" has not been replaced by "mixture"

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