

Uses covered by the ethanol lead registration dossier

Use	Part of supply chain	PROC or PC code	ERC code	Description	Comment
Manufacture of substance – large scale process > 100ktpa	Manufacture	PROC1, PROC2, PROC3, PROC8b, PROC15, PROC28	ERC1	Covers manufacturing of ethanol by fermentation processes on a large scale (>100ktpa).	Includes any recycling/ recovery, material transfers, storage, maintenance and loading using dedicated facilities (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities . Please refer to the exposure scenario for the environmental release parameters assumed to be relevant for such operations.
Manufacture of substance – small to medium scale < 100ktpa	Manufacture	PROC1, PROC2, PROC3, PROC8b, PROC15, PROC28	ERC1	Covers manufacturing of ethanol by fermentation processes on a small to medium scale (<100ktpa).	
Manufacture of substance – synthetic ethanol production	Manufacture	PROC1, PROC2, PROC3, PROC8b, PROC15, PROC28	ERC1	Covers manufacturing of ethanol by the hydration of ethylene.	
Distribution of ethanol	Formulation	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC15, PROC28	ERC2	Covers distribution of ethanol where the activities including loading and unloading using dedicated and non-dedicated facilities (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading	This covers activities at third party sites away from manufacturing. It does not cover denaturing activities, which are covered by formulation

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				distribution and associated laboratory activities	
Formulation and blending of fuels	Formulation	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15, PROC28	ERC2	Specifically covers formulation and blending of ethanol into fuels in batch or continuous operations, including storage, materials transfers and mixing. Also covers large and small scale packing, sampling, maintenance and associated laboratory activities	Covers denatured ethanol formulation.
Formulation and (re-) packaging of ethanol and its mixtures	Formulation	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15, PROC28	ERC2	Covers all formulation activities other than fuel blending, including packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers using dedicated and non-dedicated equipment, large and small scale packing, sampling, maintenance and associated laboratory activities	Covers formulation of adhesives, sealants, air care products, anti-freeze and deicers, biocidal products, coatings, paints, thinners, paint removers, fillers, putties, plasters, modelling clays, finger paints, metal surface treatment products, heat transfer fluids, hydraulic fluids, inks and toners, leather treatment products, lubricants, greases, release products, plant protection products, perfumes, fragrances, photo-chemicals, polishes, waxes, textile treatments, washing and cleaning products.
Use as an intermediate	Use at industrial sites	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15, PROC28	ERC6a	Use of ethanol as an intermediate (Controlled Conditions not required). Includes recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine	Covers the situation where the material is consumed in the process

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				vessel/barge, road/rail car and bulk container) using dedicated and non-dedicated facilities	
Use as a process chemical or extraction solvent	Use at industrial sites	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15, PROC28	ERC4	Use of ethanol as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container) using dedicated or non-dedicated facilities, sampling and associated laboratory activities	Covers the situation where the material is not consumed in the process
(End use) use of ethanol as a solvent	Use at industrial sites	PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC10, PROC13, PROC15, PROC28	ERC4	Covers all uses of ethanol where its technical function is as a solvent. Includes, material transfers using dedicated or non-dedicated facilities, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container)	Ethanol is lost during the process of use in this scenario. Covers industrial use of the following products: adhesives, sealants, anti-freeze and deicers, coatings, paints, thinners, paint removers, fillers, putties, plasters, modelling clays, metal and non-metal surface treatment products, inks and toners, leather treatment products, lubricants, greases, release products, photo-chemicals, polishes, waxes, textile treatments, washing and cleaning products.
Use of ethanol as a fuel	Use at industrial sites	PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC15, PROC16, PROC28	ERC7	Covers the use as a fuel (or fuel component) and includes activities associated with its transfer, use and equipment maintenance	

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(End use) use of ethanol as a solvent	Widespread use by professional workers	PROC1, PROC2, PROC3, PROC4, PROC5,, PROC8a, PROC10, PROC11, PROC13, PROC19, PROC28	ERC8a, ERC8d	Covers all uses of ethanol where its technical function is as a solvent. Includes, including exposures during use (including materials receipt, storage, preparation and transfer from semi-bulk or smaller containers using non-dedicated facilities,, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, and maintenance.	Covers formulation of adhesives, sealants, anti-freeze and deicers, biocidal products, coatings, paints, thinners, paint removers, fillers, putties, plasters, modelling clays, finger paints, inks and toners, leather treatment products, lubricants, greases, release products, plant protection products, polishes, waxes, textile treatments, washing and cleaning products.
Use of ethanol as a fuel	Widespread use by professional workers	PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16, PROC28	ERC9a, ERC9b	Covers the use as a fuel (or fuel component) and includes activities associated with its transfer, use and equipment maintenance.	
Use of ethanol as a heat transfer fluid	Widespread use by professional workers	PROC1, PROC2, PROC8a, PROC20, PROC28	ERC9b	Use as ethanol as a heat transfer fluid, including maintenance and related material transfers using non-dedicated equipment.	
Use in laboratories	Widespread use by professional workers	PROC10, PROC15	ERC8a	Use of small quantities within laboratory settings, including material transfers and equipment cleaning/wiping	
Use of automotive fuels containing ethanol	Consumer use	PC13	ERC9a, ERC9b	Covers use of ethanol in automotive fuels, includes refilling of vehicles	

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Use of ethanol in domestic fuel products	Consumer use	PC13	ERC9a, ERC9b	Covers use of ethanol in non-automotive fuels, includes refilling of equipment and maintenance	Covers use of as a fuel in space heaters and lighter fluids. Any fuel use other than in vehicles.
Consumer use of products containing <50g ethanol	Consumer use	PC1, PC3, PC8, PC18, PC23, PC24, PC27, PC31, PC34	ERC 8a, ERC8d		Scenario covers generic use of ethanol in small quantities of a maximum of 50g/day where the ethanol is lost during use. Large containers can be used but the daily amount defines the applicability of the scenario. Covers use of the following products in small amounts: adhesives, sealants, air care products, biocidal products, inks and toners, leather treatment products, lubricants, greases, release products, plant protection products, polishes, waxes, textile treatments
Use in enclosed systems (functional fluids – heat transfer applications)	Consumer use	PC16	ERC9b	Use of ethanol in sealed systems containing functional fluids, most typically ground source heat pumps. Covers maintenance and related material transfers and operational use.	
Use in coatings and paint products	Consumer use	PC9a, PC9b, PC9c	ERC8a, ERC8d	Covers the use in paints and paint products, including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning	

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Use in antifreeze, deicing and screenwash products	Consumer use	PC4	ERC8d	Covers use in products for de-icing of vehicles and similar equipment by spraying and use in screenwash products, including refilling	
Use in washing and cleaning products	Consumer use	PC35	ERC8a, ERC8d	Covers general exposures to consumers arising from the use of household products containing ethanol that are sold as washing and cleaning products.	
Use in cosmetics	Consumer use	PC28, PC39	ERC8a	Covers use as a carrier in cosmetics/personal care products, perfumes and fragrances.	Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation