The technical association of the European lubricants industry

The technical committee of petroleum additive manufacturers in Europe

ATIEL/ATC
Generic Exposure
Scenarios

Document 3:
Lubricant DUCC Table

This document describes the ATIEL/ATC generic exposure scenario information on lubricant uses in DUCC format.

Version 1.0
7 January 2013

Revised 05 Oct 12 (additions in red text; deletions ~~struck through~~)	ATIEL-ATC USE AND EXPOSURE INFORMATION TO SUPPORT CSA DEVELOPMENT - FOLLOWING THE DUCC FORMAT	Compliant with ECHA guidance on use descriptors dated 22 March 2010																						
			Use Descriptors							Life Cycle Stage(s)						Exposure Modifier	Exposure Modifier					RMM		
												end use						Outdoor	Indoor					
Code	Short ES title	Short description of process or activity	Sector of use (SU)	Process Category (PROC)	Product category (PC)	Product Sub-category	Environ-mental Release Category (ERC)	SPERC	Article Category (AC)	Manufacture	Formulation	Industrial	Professional	Consumer	Service Life	Typical OC and RMM	duration and frequency (exposure time)		with LEV	without LEV	respiratory protection	Eye protection	Hand Protection	Code
ATIEL-ATC Group A [i]	**Industrial formulation of lubricant additives, lubricants and greases.** Includes material transfers, mixing, large and small scale packing, sampling, maintenance and associated laboratory activities.	Closed continuous processes at elevated temperature with sampling, including grease manufacture	SU 3, 10* *may not be applicable for use as intermediate	PROC 2	PC 17, 19*, 24, 25 * Components used to manufacture grease thickeners are intermediates, e.g. Lithium hydroxide, Fatty acids.	n/a	ERC 2 ERC 6A*	**1. A(i) AddPack:** ATIEL-ATC SPERC 2.Ai-a.v1 **2. A(i) Lubes:** ATIEL-ATC SPERC 2.Ai-l.v1	n/a		x	x			n/a	Indoor. Closed continuous process; daily; 8 h/d. Elevated temp (up 150C). Mixing/blending vessels under extraction, self-cleaning filters	Daily 8 hour	No	Yes	No	No	Yes	Yes	A(i)
		Batch closed process with sampling. Blending and Filling processes (closed / dedicated). Includes both bulk and small quantity additions. May be at elevated temperature e.g. grease manufacture.		PROC 3							x	x			n/a	Indoor. Batch process; daily; 8 h/d. Elevated temp (up to 150C). Mixing/blending vessels with LEV, self-cleaning filters. Drum pump or dedicated drum handling equipment. Powder handling at dedicate station. LEV at transfer points. Spill containment at all inlet/outlet points. PPE (overalls / gloves / eye protection	Daily 8 hour	No	Yes	No	No	Yes	Yes	
		Batch open process. Blending and Filling processes (open / non dedicated). Includes addition of both bulk and small quantity additions,mixing operations May be at elevated temperature, e.g. Grease manufacture.		PROC 4, 5							x	x			n/a	Indoor. Batch process; daily;Activities involving exposure 1-4 hours. Elevated temp (up to 150C). Open equipment, some manual additions for solids or low treat rate components. PPE (overalls / gloves / eye protection). RPE often used for powders. LEV recommended, but not always used	Daily 1-4 hours	No	Yes	Yes	Yes (powders)	Yes	Yes	
		Sample collection of formulation		PROC 4							x	x			n/a	Indoor. Daily; <15 mins/d; elevated temperatures up to 150C Manual sampling, e.g. at the loading arm or via tank bottom valves. PPE (overalls / gloves / eye protection). No LE\	Daily <15 mins	No	No	Yes	No	Yes	Yes	
		Sample collection of incoming raw materials		PROC 8b							x	x			n/a	Indoor. Daily; <15 mins/d; ambient temperatures. Manual sampling delivery from tanks, drums, packs. Use of dedicated sampling equipment. PPE (overalls / gloves / eye protection). No LE\	Daily <15 mins	No	No	Yes	No	Yes	Yes	
		Bulk transfers by fixed pipe or flexible hose		PROC8b							x	x			n/a	Indoor. Daily; 15 mins - 1 h/d; elevated temperature temp as above. Utilise non return valves for flexible hoses, clear lines prior to decoupling. PPE (overalls / gloves / eye protection). LEV sometimes used, but not always	Daily 15 mins - 1 hour	No	Yes	Yes	No	Yes	Yes	
		Small pack (drum/bag) transfers - dedicated facility.		PROC 8b							x	x			n/a	Indoor . Daily; 15mins - 1h/d; elevated temperatures as above. Drum pump or dedicated drum handling equipement. Powder handling at dedicated station. LEV at transfer points. Spill containment at all inout/outlet points. PPE (overalls / gloves / eye protection	Daily 15 mins - 1 hour	No	Yes	No	No	Yes	Yes	
		Small pack (drum/bag) transfers - non dedicated facility.		PROC 8a							x	x			n/a	Indoor . Daily; 15mins - 1h/d; elevated temperatures as above. Manual transfers. PPE (overalls / gloves / eye protection / RPE for powders). LEV sometimes used, but not alway\	Daily 15 mins - 1 hour	No	Yes	Yes	Yes (powders)	Yes	Yes	
		Maintenance & cleaning		PROC 8b							x	x			n/a	Indoor. Daily; 1 - 4h/d; ambient temp; collection of line waste in container. Enclosed lines; PPE (overalls / gloves / eye protection). No LEV.	Daily 1 - 4 hour	No	No	Yes	No	Yes	Yes	
		Top filling of bulk containers (road cars etc)		PROC8b							x	x			n/a	Indoor and outdoor. Daily; 15 mins - 1 h/d; ambient temp. PPE (overalls / gloves / eye protection). No LEV.	Daily 15 mins - 1 hour	Yes	No	Yes	No	Yes	Yes	
		Filling of drums and small packages		PROC 9							x	x			n/a	Indoor. Continuous; daily; 8 h/d; ambient temp. Enclosed transfers, vented transfer points. PPE (overalls / gloves / eye protection). LEV sometimes used, but not always	Daily 8 hour	No	Yes	Yes	No	Yes	Yes	
		QC & Laboratory		PROC 15							x	x			n/a	Indoor. Continuous; daily; 1 - 4 h/d; ambient temp. Gloves, eye protection, overalls. LEV (fumecupboard) for some operations.	Daily 1 - 4 hour	No	Yes	Yes	No	Yes	Yes	
		Material storage		PROC 1, 2							x	x			n/a	Indoor and outdoor. daily; 8h/d. (Sampling <15 mins). Ambient temp Closed storage vessels/containers.	Daily 8 hours	Yes	Closed	Closed	No	No	No	
ATIEL-ATC Group B [i]	**General industrial use of lubricants and greases in vehicles or machinery.** Includes filling and draining of containers and enclosed machinery (including engines)	Initial factory fill from header tank; Lubricating Oil	SU 3	PROC 9	PC ~~16~~, 17, 24	n/a	ERC 4, 7	B(i): ATIEL-ATC SPERC 4.Bi.v1	n/a			x			n/a	Indoor. Liquid phase. Continuous, daily, up to 8 h/d. Production line environment. Duration of each filling activity <5 minutes, repeated variable number of times per day depending on facility (e.g. number vehicles manufactured/day). Dedicated filling lines, including spill containment, LEV likely in larger facilities	Daily 8 hour	No	Yes	Yes	No	No	No	B (i)
		Initial factory fill by pouring from containers; Lubricating Oil		PROC 8b								x			n/a	Indoor. Liquid phase. Daily,1 - 4 hours. Production line environment. Duration of each filling activity <5 minutes, repeated variable number of times per day depending on facility (e.g. number of vehicles manufactured/day). Spill containment, No LEV likely in smaller facilities. PPE (gloves, eye protection'	Daily 1 - 4~~8~~ hour	No	Yes	Yes	No	Yes	Yes	
		Initial factory fill by injection of greases.		PROC 2, 9								x			n/a	Indoor. Daily, up to 8 h/d. Initial fill is done through a central lubrication system usually at low pressure (just enough pressure to overcome the pressure drop along the lines), but sometimes also at high pressure. Dedicated filling lines, including spill containment. No LEV	Daily 4 - 8 hour	No	No	Yes	No	No	No	
		Use as a lubricant/grease in a closed system		PROC 1								x			n/a	Indoor & outdoor. Liquid phase. Continuous; daily. No exposure. Closed processes (e.g. transmission/gearbox system	Daily None	Yes	No	Yes	No	No	No	
		Maintenance activities industrial settings. General exposure during maintenance work including draining, refilling and R&D (e.g. engine testing)		PROC 8b								x			n/a	Indoor. Liquid phase. Daily.Activities involving exposure 1 -4 hours. Ambient temperature. Spill containment. PPE (gloves, eye protection). No LEV.	Daily 1 - 4 hour	No	No	Yes	No	Yes	Yes	
		~~Disposal of waste product & used containers~~ (Incorporated in row above 'Maintenance activities'.)		~~PROC 8b~~								~~x~~			~~n/a~~	~~Indoor. Liquid phase. Daily. <15mins/d. No LEV. Transfer to waste container, Spill containment. PPE (gloves, eye protection)~~Covered by 'Maintenance activities'.	~~Daily <15 mins~~	~~No~~	~~No~~	~~Yes~~	~~No~~	~~Yes~~	~~Yes~~	
		Material storage		PROC 1, 2								x			n/a	Indoor and outdoor. daily; 8h/d. Ambient temp. Closed storage vesse containers.	Daily 8 hours	Yes	Closed	Closed	No	No	No	
ATIEL-ATC Group B [p]	**General professional use of lubricants and greases in vehicles or machinery.** Includes filling and draining of containers and enclosed machinery (including engines)	Use as a lubricant/grease in a closed system	SU 22	PROC 1	PC ~~16~~, 17, 24	n/a	ERC 9a, 9b	B(p): ATIEL-ATC SPERC 9.Bp.v1	n/a				x		n/a	Indoor and outdoor. Liquid phase. Continuous; daily; elevated temperature. No exposure. Closed processes (e.g. transmission/gearbox closed bearing systems	Daily None	Yes	No	Yes	No	No	No	B (p)
		General exposure during maintenance work including draining, refilling		PROC 8a, 8b, 20									x		n/a	Indoor and outdoor. Liquid phase. Daily 1-4h/d. Ambient temperature. Spill containment . PPE (gloves, eye protection). No LEV	Daily 1 - 4 hour	Yes	No	Yes	No	Yes	Yes	
		~~Disposal of waste product & used containers.~~ (Incorporated in row above 'Maintenance activities'.)		~~PROC 8a, 8b~~									~~x~~		~~n/a~~	~~Indoor and outdoor. Liquid phase. Daily. <15mins/d. No LEV. Transfer to waste container, Spill containment. PPE (gloves, eye protection).~~Covered by 'maintenance activities	~~Daily <15 mins~~	~~Yes~~	~~No~~	~~Yes~~	~~No~~	~~Yes~~	~~Yes~~	
		Material storage		PROC 1, 2									x		n/a	Indoor and outdoor. Daily; 8h/d. Ambient temp. Closed storage containers.	Daily 8 hours	Yes	Closed	Closed	No	No	No	
ATIEL-ATC Group B [c]	**General consumer use of lubricants and greases in vehicles or machinery.** Includes filling and draining of containers and enclosed machinery (including engines	Use as a lubricant in a closed system, including filling, draining and maintenance	SU 21	n/a	PC 24	n/a	ERC 9a, 9b	B(c): ATIEL-ATC SPERC 9.Bc.v1	n/a					x	n/a		Weekly or less <15 mins	Yes	No	Yes	No	No	No	B (c)

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			Use Descriptors							Life Cycle Stage(s)						Exposure Modifier	Exposure Modifier					RMM		
												end use						Outdoor	Indoor					
Code	Short ES title	Short description of process or activity	Sector of use (SU)	Process Category (PROC)	Product category (PC)	Product Sub-category	Environ-mental Release Category (ERC)	SPERC	Article Category (AC)	Manufacture	Formulation	Industrial	Professional	Consumer	Service Life	Typical OC and RMM	duration and frequency (exposure time)		with LEV	without LEV	respiratory protection	Eye protection	Hand Protection	Code
ATIEL-ATC Group C [i]	**(Industrial) Use of lubricants and greases in open systems.** Application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection, slideways	Manual filling of lubricant container, i.e. bath or tank	SU 3	PROC 8b	PC 24	n/a	ERC 4	C(i): ATIEL-ATC SPERC 4.Ci.v1	n/a			x			n/a	Indoor. Manual transfer at room temperature (low energy transfer). Daily 15mins - 1hr. Pumped transfer or pouring from container; gloves. No LEV.	Daily 15 mins - 1 hour	No	No	Yes	No	No (?)	Yes	C (i)
		Automated filling of lubricant container, i.e. bath or tank		PROC 8b, 9								x			n/a	Indoor. Automatic/manual transfer at room temperature (low energy transfer) continuous; Daily 15mins - 1hr. Enclosed transfer, with LEV. Use of gloves in case of contact	Daily 15 mins - 1 hour	No	Yes	No	No	No	Yes	
		Automated roller application or brushing of coatings		PROC 10								x			n/a	Indoor. Automatic dosage of the lubricant to the roller or the brush at room temperature; continuous, 8h/d. Use of gloves and eye protection.	Daily 8 hour	No	No	Yes	No	Yes	Yes	
		Spraying onto equipment or article		PROC 7								x			n/a	Indoor. Automatic spraying at room temperature; continuous, 8h/d. LEV: spraying cabinet with capture of the aerosols; use of gloves, overalls/apron and eye protectio	Daily 8 hour	No	Yes	No	No	Yes	Yes	
		Treatment of articles by dipping and pouring		PROC 13								x			n/a	Indoor. Automatic dipping in a bath at room temperature; continuous, 8h/d. Cabinet to allow the dipping and the dripping of the pieces. No LEV.	Daily 8 hour	No	No	Yes	No	Yes	Yes	
		Draining, maintenance & cleaning of equipment		PROC 8b								x			n/a	Indoor. 1 - 4 h/d. Collection of waste in dedicated container. Gloves, eye protection. No LEV	Daily 1 -4 hour	No	No	Yes	No	Yes	Yes	
		Material storage		PROC 1, 2								x			n/a	Indoor and outdoor. Daily; 8h/d. Ambient temp. Closed storage vessel/ container.	Daily 8 hours	Yes	Closed	Closed	No	No	No	
ATIEL-ATC Group C [p]	**(Professional) Use of lubricants and greases in open systems.** Application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection, slideways	Manual filling of lubricant container, i.e. bath or tank	SU 22	PROC 8a	PC 24	n/a	ERC 8a, 8d	C(p): ATIEL-ATC SPERC 8.Cp.v1	n/a				x		n/a	Indoor. Manual transfer at room temperature (low energy transfer) Daily 15mins - 1hr. Pumped transfer or pouring from container; gloves. No LEV.	Daily 15 mins - 1 hour	No	No	Yes	No	No (?)	Yes	C (p)
		Roller application or brushing of coatings		PROC 10									x		n/a	Indoor or outdoor. Manual dosage of the lubricant to the roller or the brush at room temperature; continuous; 8h/d. Gloves, eye protection No LEV	Daily 8 hour	No	No	Yes	No	Yes	Yes	
		Spraying onto equipment or article		PROC 11									x		n/a	Indoor or outdoor. Selection of spraying nozzles to avoid to small droplets (losses of lubricant in aerosol forms if droplets with a too small diameter). 15 min - 1 h/d. Mask (RPE), gloves, eye protection No LEV.	Daily 15 mins - 1 hour	Yes	No	Yes	Yes	Yes	Yes	
		Treatment of articles by dipping and pouring		PROC 13									x		n/a	Indoor. Automatic dipping in a bath at room temperature; continuous, 8h/d. Cabinet to allow the dipping and the dripping of the pieces. No LEV. Gloves, eye protectior	Daily 8 hour	No	No	Yes	No	Yes	Yes	
		Draining, maintenance & cleaning of equipment		PROC 8a									x		n/a	Indoor. 1 - 4 h/d. Collection of waste in dedicated container. Gloves, eye protection. No LEV	Daily 1 - 4 hour	No	No	Yes	No	Yes	Yes	
		Material storage		PROC 1, 2									x		n/a	Indoor and outdoor. Daily; 8h/d. Ambient temp. Closed storage vessel/container.	Daily 8 hours	Yes	Closed	Closed	No	No	No	
ATIEL-ATC Group C [c]	**(Consumer) Use of lubricants and greases in open systems.** Application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection, slideways	Use as a lubricant in an open system, e.g, penetrating lubricants/greases	SU 21	n/a	PC 24	n/a	ERC 8a, 8d	C(c): ATIEL-ATC SPERC 8.Cc.v1	n/a					x	n/a		Weekly or less 15 mins - 1 hour	Yes	No	Yes	No	No	No	C (c)
ATIEL-ATC Group D [i]	**(Industrial) Use of lubricants in open high temperature processes**, e.g. quenching fluids, glass release agents	Fill bath with fluid by pumping from drum or large container	SU 3	PROC 8b	PC 24, 25	n/a	ERC 4	n/a	n/a			x			n/a	Indoor. Weekly or less; > 4 h/d. No LEV. Potential for splash back, so wear eye protection, gloves, overalls	Weekly or less >4 hours	No	No	Yes	No	Yes	Yes	D (i)
		Dip hot metal workpiece into fluid in closed boo		PROC 13								x			n/a	Indoor. Continuous; daily; 8 h/d. LEV; closed boot	Daily 8 hour	No	Yes	No	No	No	No	
		Dip hot metal workpiece into fluid in open v		PROC 13								x			n/a	Indoor. Continuous; daily; 8 h/d. LEV. Gloves, eye protection, over	Daily 8 hour	No	Yes	No	No	Yes	Yes	
		Remove spent/contaminated fluid from tank		PROC 8b								x			n/a	Indoor. Weekly or less; 15mins - 1hr per time. Drained off or vacuumed out of tank. Collection of waste in dedicated container, Gloves, eye protection, overalls. No LEV	Weekly or less 15 mins - 1 hour	No	No	Yes	No	Yes	Yes	
		Equipment cleaning and maintenance~~Treat and dispose spent fluid~~		PROC 8b								x			n/a	Indoor or outdoor. Daily 1 - 4 hours. ~~Weekly or less; >4 h/time.~~ Gloves, eye protection, overalls. No LEV.	Daily 1 - 4 hrs ~~Weekly or less >4 hours~~	Yes	No	Yes	No	Yes	Yes	
		Material storage		PROC 1, 2								x			n/a	Indoor and outdoor. Daily; 8h/d. Ambient temp. Closed storage vessel/container.	N/A	Yes	Closed	Closed	No	No	No	
ATIEL-ATC Group E [i]	**(Industrial) Handling and dilution of metalworking fluid concentrates**	Add concentrate to water tank by pouring from small container	SU 3	PROC 5, 8b	PC 25	n/a	ERC 2	E(i): ATIEL-ATC SPERC 2.Ei.v1	n/a		x	x			n/a	Indoor. Twice a day; 15 mins - 1 h/d; ambient temp. No LEV. Potential for splash back, so wear eye protection, gloves, overalls or apron	Daily 15 mins - 1 hour	No	No	Yes	No	Yes	Yes	E (i)
		Add concentrate to water tank by pumping from drum or tank via mixer		PROC 5, 8b							x	x			n/a	Indoor. Twice a day; 15 mins - 1 h/d; ambient temp. No LEV. Potential for splash back, so wear eye protection, gloves, overalls or apron	Daily 15 mins - 1 hour	No	No	Yes	No	Yes	Yes	
		Sample the solution to test concentration		PROC 8b							x	x			n/a	Indoor. Twice a day; 15 mins - 1 h/d; ambient temp. By dipping pipette - no hand immersion. No LEV. Potential for skin & eye contact so wear eye protection, gloves, overalls or appr	Daily 15 mins - 1 hour	No	No	Yes	No	Yes	Yes	
		Equipment cleaning and maintenance~~Disposal of waste product & used containers~~		PROC 8b							x	x			n/a	Indoor and outdoor. Liquid phase. Daily1 - 4 hours. ~~15mins/d.~~ No LEV. Transfer to waste container, Spill containment. PPE (gloves, eye protection)	Daily 1 - 4 hours ~~15 mins~~	Yes	No	Yes	No	Yes	Yes	
		Material storage		PROC 1, 2							x	x			n/a	Indoor and outdoor. Daily; 8h/d. Ambient temp. Closed storage vessel/containers.	Daily 8 hours	Yes	Closed	Closed	No	No	No	

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			Use Descriptors							Life Cycle Stage(s)						Exposure Modifier	Exposure Modifier					RMM		
Code	Short ES title	Short description of process or activity	Sector of use (SU)	Process Category (PROC)	Product category (PC)	Product Sub-category	Environ-mental Release Category (ERC)	SPERC	Article Category (AC)	Manufacture	Formulation	end use			Service Life	Typical OC and RMM	duration and frequency (exposure time)	Outdoor	Indoor		respiratory protection	Eye protection	Hand Protection	Code
												Industrial	Professional	Consumer					with LEV	without LEV				
ATIEL-ATC Group F [i]	**(Industrial) Use of lubricants in high energy open processes**, e.g. in high speed machinery such as metal rolling / forming or metalworking fluids for machining and grinding	Fill bath with fluid	SU 3	PROC 8b	PC 24, 25	n/a	ERC 4	F(i): ATIEL-ATC SPERC 4.Fi.v1	n/a			x			n/a	Indoor. Weekly or less; > 4 h/d. Potential for splash back, so wear eye protection, gloves, overalls or apron. No LEV.	Weekly or less >4 hours	No	No	Yes	No	Yes	Yes	F (i)
		Metal machining operations, e.gdrilling, grinding etc (giving risk to mist		PROC 17								x			n/a	Indoor. Continuous; daily; 8 h/d. LEV. Gloves, eye protection, over	Daily 8 hour	No	Yes	No	No	Yes	Yes	
		~~Remove finished object from machine.~~ (Covered by metal maching operations.)		~~PROC 17~~								~~x~~			~~n/a~~	~~Indoor. Continuous; daily; <15 mins (per article); up to 8 h/d. LEV. Gloves, eye protection, overalls~~Covered by Metal Maching Operations.	~~Daily 8 hour~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~Yes~~	~~Yes~~	
		Use of high speed machinery (not MWF uses) - open systems giving rise to mis		PROC 17 / PROC18								x			n/a	Indoor. Continuous; daily; 8 h/d. Gloves, eye protection, overalls. No LEV. (Not MWF uses)	Daily 8 hour	No	No	Yes	No	Yes	Yes	
		Automated metal rolling / forming		PROC 2								x			n/a	Indoor. Continuous; daily; 8 h/d; elevated temperature from rolling operation; remote operation. Occasional controlled exposure. Enclosed vented cabinet with blow off system to contain mist/vapour product recovery and recirculation. Gloves / eye protection / overal	Daily 8 hour	No	Yes	No	No	Yes	Yes	
		Semi-automated metal rolling / forming		PROC 17								x			n/a	Indoor. Continuous; daily; 8 h/d; elevated temperature from rolling operation; manual intervention. LEV canopy; product recovery and recirculation. Gloves / eye protection / overall	Daily 8 hour	No	Yes	No	No	Yes	Yes	
		Draining, maintenance & cleaning of equipment		PROC 8b								x			n/a	Indoor or outdoor. Daily; 1 - 4h/d; ambient temp. Collection of waste in dedicated container. Gloves, eye protection, overalls. No LE	Daily 1 - 4 hour	Yes	No	Yes	No	Yes	Yes	
		~~Treat and dispose spent fluid~~ (Incorporated in row above 'Draining, maintenance and cleaning of equipment.)		~~PROC 8b~~								~~x~~			~~n/a~~	~~Indoor or outdoor. Weekly or less; > 4 h/d. Gloves, eye protection, overalls. No LEV.~~Covered by maintenance activities.	~~Weekly or less >4 hours~~	~~Yes~~	~~No~~	~~Yes~~	~~No~~	~~Yes~~	~~Yes~~	
		Material storage		PROC 1, 2								x			n/a	Indoor and outdoor. Daily; 8h/d. Ambient temp. Closed storage vessel/containers.	Daily 8 hours	Yes	Closed	Closed	No	No	No	
ATIEL-ATC Group F [p]	**(Professional) Use of lubricants in high energy open processes,** e.g. in high speed machinery such as metal rolling / forming or metalworking fluids for machining and grinding	Fill bath with fluid	SU 22	PROC 8a	PC 24, 25	n/a	ERC 8a	F(p): ATIEL-ATC SPERC 8.Fp.v1	n/a				x		n/a	Indoor. Weekly or less; 15 mins - 1 hour. Potential for splash back, so wear eye protection, gloves, overalls or apron. No LEV	Weekly or less 15 mins - 1 hour	No	No	Yes	No	Yes	Yes	F (p)
		Metal machining operations, e.gdrilling, grinding etc (giving risk to mist		PROC 17									x		n/a	Indoor. Continuous; daily; 8 h/d. LEV. Gloves, eye protection, over	Daily 8 hour	No	Yes	No	No	Yes	Yes	
		~~Remove finished object from machine.~~ (Covered by metal maching operations.)		~~PROC 17~~									~~x~~		~~n/a~~	~~Indoor. Continuous; daily; <15 mins (per article); up to 8 h/d. LEV. Gloves, eye protection, overalls~~Covered by Metal Machining Operations.	~~Daily 8 hour~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~Yes~~	~~Yes~~	
		Use of high speed machinery (not MWF uses) - open systems giving rise to mist		PROC 17 / PROC18									x		n/a	Indoor or outdoor. Continuous; daily; 8 h/d. Potential for mist formation. Gloves, eye protection, overalls. No LEV. (Not MWF uses)	Daily 8 hour	Yes	No	Yes	Yes	Yes	Yes	
		Draining, maintenance & cleaning of equipment		PROC 8a									x		n/a	Indoor or outdoor. Daily;1 - 4hours ~~15 mins - 1 h/d~~ ; ambient temp. Collection of waste in dedicated container. Gloves, eye protection, overalls. No LEV.	Daily 1 - 4 hours ~~15 mins - 1 hour~~	Yes	No	Yes	No	Yes	Yes	
		~~Treat and dispose spent fluid~~ (Incorporated in row above 'Draining, maintenance and cleaning of equipment.)		~~PROC 8a~~									~~x~~		~~n/a~~	~~Indoor or outdoor. Weekly or less; > 4 h/d. Gloves, eye protection, overalls. No LEV.~~Covered by maintenance activities.	~~Weekly or less >4 hours~~	~~Yes~~	~~No~~	~~Yes~~	~~No~~	~~Yes~~	~~Yes~~	
		Material storage		PROC 1, 2									x		n/s	Indoor and outdoor. Continuous; daily; >8h/d. LEV sometimes used, but not always.	Daily >8 hours	Yes	Yes	Yes	No	No	No	

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ECHA Guidance on information requirements and chemical safety assessment

Chapter R.12: Use Descriptor System, Version: 2, March 2010

Appendix R.0-3 Descriptor List for process categories (PROC)

PROC 1 Use in closed process, no likelihood of exposure
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 processs (synthesis) where opportunity for exposure arises
PROC 5 Mixing or blending in batch process for formulation of preparations and articles (multistage and/or significant contact)
PROC 6 Calendering operations
PROC 7 Industrial spraying
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
PROC 9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC 10 Roller application or brushing
PROC 11 Non industrial spraying
PROC 12 Use of blow agents in manufacture of foam
PROC 13 Treatment of articles by dipping and pouring
PROC 14 Production of preparations or articles by tabletting, compression, extrusion, pelettisation
PROC 15 Use a laboratory reagent
PROC 16 Using material as fuel sources, limited exposure to unburned product to be expected
PROC 17 Lubrication at high energy conditions and in partly open process
PROC 18 Greasing at high energy conditions
PROC 19 Hand-mixing with intimate contact and only PPE available
PROC 20 Heat and pressure transfer fluids in dispersive professional use but closed systems
PROC 21 Low energy manipulation of substances bound in materials and/or articles
PROC 22 Potentially closed processing operations with minerals/metals at elevated temperature, Industrial setting.
PROC 23 Open processing and transfer operations with minerals/metals at elevated temperature
PROC 24 High (mechanical) energy work-up of substances bound in materials and/or articles
PROC 25 Other hot work operations with metals
PROC 26 Handling of solid inorganic substances at ambient temperature
PROC 27a Production of metal powders (hot processes)
PROC 27b Production of metal powders (wet processes)

Revised 05/05/2010

ECHA Guidance on information requirements and chemical safety assessment

Chapter R.12: Use Descriptor System

Appendix R.0-4.1 Description for Environmental Release Categories (ERC)

ERC1 Manufacture of substances
ERC2 Formulation of preparations
ERC3 Formulation in materials
ERC4 Industrial use of processing aids in processes and products, not becoming part of articles
ERC5 Industrial use resulting in inclusion into or onto a matrix
ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b Industrial use of reactive processing aids
ERC6c Industrial use of monomers for manufacture of thermo-plastics
ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers,
ERC7 Industrial use of substances in closed systems
ERC8a Wide dispersive indoor use of processing aids in open systems
ERC8b Wide dispersive indoor use of reactive substances in open systems
ERC8c Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8d Wide dispersive outdoor use of processing aids in open systems
ERC8e Wide dispersive outdoor use of reactive substances in open systems
ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix
ERC9a Wide dispersive indoor use of substances in closed systems
ERC9b Wide dispersive outdoor use of substances in closed systems
ERC10a Wide dispersive outdoor use of long-life articles and materials with low release
ERC10b Wide dispersive outdoor use of long-life articles and materials with high or intended releases (including abrasive processing)
ERC11a Wide dispersive indoor use of longlife articles and materials with low release
ERC11b Wide dispersive indoor use of longlife articles and materials with high or intended release (including abrasive processing)
ERC12a Industrial processing of articles with abrasive techniques (low release)
ERC12b Industrial processing of articles with abrasive techniques (high release)

Revised 05_Oct_2012	Note: This is not a complete copy of the Use descriptors, this tab is only used to document reasons for use descriptor selection where approporate. Refer to the sheet named DUCC format for the full set of use descriptors.							
Code	Short ES title	Short description of process or activity	Use Descriptors			Decision		
			Sector of use (SU)	Process Category	Environ-mental	PROC Narrative	ERC Narrative	Reference
ATIEL-ATC Group A [i]	Industrial formulation of lubricant additives, lubricants and greases including batch processes at high temperatures, e.g. formulation of grease thickeners.	Maintenance & cleaning	SU3, 10	PROC 8b		There is no specific PROC allocated in Ref 12 to maintenance. Question on whether PROC8b or PROC10 (brushing/wiping) is relevant. In terms of inhalation exposure, PROCs 8b and 10 give the same result. PROC 10 results in slightly higher skin exposure but this is considered not to be significant. Based on updated guidance it was decided that PROC 10 was associated with applying a cleaning agent directly to an object, whereas PROC 8b was concerned with removal. i.e. where it was clear that the activity was “removing” lubricant versus “applying” lubricant by the same process PROC 8b should be used.		Jul 09 ATIEL / ATC GES WG minutes
ATIEL-ATC Group B [i]	General industrial use of lubricants and greases in vehicles or machinery. Includes filling and draining of containers and enclosed machinery (including engines)	Initial factory fill by pouring from containers; Lubricating Oil		PROC 8b	ERC 4, 7		ERC4 to cover factory fill related Short descriptions of process or activity and ERC 7 to cover use, maintenance and disposal elements.	
		Initial factory fill by injection of greases.		PROC 2, 9		PROC 2 used to cover high pressure injection of greases		
		Use as a lubricant/grease in a closed system		PROC 1		PROC 1 used to cover normal use of an automotive lubricant or grease in preference to PROC 17 since whilst in operation there is little potential for human exposure and therefore from a human exposure release perspective the equipment can be considered a closed system.		
	General professional use of lubricants and greases in vehicles or machinery. Includes filling and draining of containers and enclosed machinery (including engines	General exposure during maintenance work including draining, refilling.		PROC 8a, 8b, 20		PROC 8a and PROC 20 now added to cover the greater human exposure potential resulting from use and maintenance activities by professional users, i.e. garage mechanics		
		Disposal of waste product & used containers		PROC 8a, 8b		PROC 8a added to cover the greater human exposure potential resulting from use and maintenance activities by professional users, i.e. garage mechanics.		
ATIEL-ATC Group B [c]	General consumer use of lubricants and greases in vehicles or machinery. Includes filling and draining of containers and enclosed machinery (including engines)	Use as a lubricant in a closed system, including filling, draining and maintenance	SU 21	n/a	ERC 9a, 9b		ERC 9a and ERC 9b apply equally to consumer use as professional use to cover the environmental exposure potential of use, maintenance and disposal elements.	

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Code	Short ES title	Short description of process or activity	Use Descriptors			Decision		
			Sector of use (SU)	Process Category	Environ-mental	PROC Narrative	ERC Narrative	Reference
ATIEL-ATC Group C [i]	(Industrial) Use in open system. Application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection, slideways	Manual filling of lubricant container, i.e. bath or tank	SU 3	PROC 8a	ERC 4	PROC 8b and PROC 9 used for Automated filling activities as it is anticipated that this type of sophisticated equipment is more likely to be available in dedicated facilities and will be designed specifically to limit environmental exposure. PROC 8a is therefore more applicable to manual filling activities.	ERC 4 used in preference to ERC 7 as system is not closed and therefore ERC 7 is not applicable.	
		Automated filling of lubricant container, i.e. bath or tank		PROC 8b, 9				
		Automated roller application or brushing of coatings		PROC 10		PROC 10 used here to cover application of substances to surfaces by rolling or brushing		
ATIEL-ATC Group C [p]	(Professional) Use in open system. Application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection, slideways	Manual filling of lubricant container, i.e. bath or tank	SU 22	PROC 8a	ERC 8a, 8d	No automated filling activity anticipated in a non industrial setting	ERC 8a and ERC 8d used in absence of SPERC but as there is usually no direct release to the environment SPRECs will be developed.	
		Spraying onto equipment or article		PROC 11		PROC 11 used in preference to PROC 7 to cover application by spraying since PROC 11 is non industrial setting.		
ATIEL-ATC Group C [c]	(Consumer) Use in open system. Application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection,	Use as a lubricant in an open system, e.g, penetrating lubricants/greases	SU 21	n/a	ERC 8a, 8d		ERC 8a and ERC 8d apply since as its consumer use direct release to the environment could occur	
ATIEL-ATC Group D [i]	(Industrial) Use of lubricants in open high temperature processes, e.g. quenching fluids, glass release agents	Fill bath with fluid by pumping from drum or large container	SU 3	PROC 8b	ERC 4			
		Dip hot metal workpiece into fluid in closed booth		PROC 13				
		Dip hot metal workpiece into fluid in open vat		PROC 13				
		Equipment cleaning and maintenance		PROC 8b				
		~~Treat and dispose spent fluid~~		~~PROC 8b~~		Covered by Equipment cleaning and maintenance		
ATIEL-ATC Group E [i]	(Industrial) Handling and dilution of metalworking fluid concentrates	Add concentrate to water tank by pouring from small container	SU 3	PROC 5, 8b	ERC 2			
		Add concentrate to water tank by pumping from drum or tank via mixer		PROC 5, 8b				
		Sample the solution to test concentration		PROC 8b				
		Equipment cleaning and maintenance		PROC 8b				
ATIEL-ATC Group F [i]	(Industrial) Use of lubricants in high energy open processes, e.g. in high speed machinery such as metal rolling / forming or metalworking fluids for machining and grinding	Fill bath with fluid	SU 3	PROC 8b	ERC 4			
		Metal machining operations, e.g. drilling, grinding, etc (giving rise to mist)		PROC 17				
		~~Remove finished object from machine~~		~~PROC 17~~		Covered by Metal machining operations		
		Use of high speed machinery (not MWF uses) - open systems giving rise to mist		PROC 17/ PROC18		PROC18 also relevant		
		Automated metal rolling / forming		PROC 2				
		Semi-automated metal rolling / forming		PROC 17		PROC4 also relevant		
		Draining, maintenance & cleaning of equipment		PROC 8b				
		~~Treat and dispose spent fluid~~		~~PROC 8b~~		Covered by maintenance.		

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Code	**Short ES title**	**Short description of process or activity**	**Use Descriptors**			**Decision**		
			Sector of use (SU)	**Process Category**	**Environ-mental**	**PROC Narrative**	**ERC Narrative**	**Reference**
ATIEL-ATC Group F [p]	(Professional) Use of lubricants in high energy open processes, e.g. in high speed machinery such as metal rolling / forming or metalworking fluids for machining and grinding	Fill bath with fluid	SU 22	PROC 8a	ERC 8a			
		Metal machining operations, e.g. drilling, grinding, etc (giving rise to mist)		PROC 17/ PROC18				
		~~Remove finished object from machine~~		~~PROC 17~~		Covered by Metal machining operations		
		Use of high speed machinery (not MWF uses) - open systems giving rise to mist		PROC 17		PROC4 also relevant		
		Draining, maintenance & cleaning of equipment		PROC 8a				
		~~Treat and dispose spent fluid~~		~~PROC 8a~~		Covered by maintenance.		

ATIEL-ATC Lubricant DUCC Table			
Version	Date	Revised by	Comments
V1	08-Jul-09	Group	Original posting
V2	01-Feb-10	HH	Update from group review
V3	05-May-10	All	
V4	02-Aug-10	HH	Minor changes to DUCC format
V5	05-Oct-12	AM	Updates to account for revisions in mapping from initial experience of 2010 registrations.

Comments
PROC 18 is deemed to be covered by PROC 17

Change History - DUCC format worksheet			
Version	Group	Line no	Change
01-Feb-10	C	27, 32, 37	Text "*Use in open systems"* added' to I, P & C
	All		Materlal storage added with PROC 1 & PROC 2
	ercs		Table updated
	procs		Table updated
05-May-10	A(i)	5 to 17	Inclusion of grease manufacture
	n/a	1	Comment added re compliance with ECHA guidance
	All (i) & (p)		Materlal storage added with PROC 1 & PROC 2
	n/a	New sheet added	Addition of use desriptor decision process
02-Aug-10	A(i)	5 to 17	SU 10 comment added
########	General		SPERC codes added to column I