

SAFETY DATA SHEET

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Version : Rev. 2

Regulation : In accordance with Regulation (EU) 2015/830 (REACH), Annex II, and OSHA 29 CFR 1910.1200

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Name of product : HI-FLOW(MI,IL,GP)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses :

Formulation

Identified Use (IU) name	Process Category (PROC)	Environmental Release Category (ERC)	Substance supplied to that use in form of	Product Category (PC)	Sector of Use (SU)	Subsequent service life relevant for that use	Technical function of the substance	Article Category (AC)
Polymer industry - PEST 3.7	PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 6: Calendering operations 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	ERC 3: Formulation in materials ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release	As such (substance itself) In a mixture	PC 32: Polymer preparations and compounds	SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 12: Manufacture of plastics products, including compounding and conversion	yes	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	AC 13: Plastic articles

	<p>preparation into small containers (dedicated filling line, including weighing) PROC 10: Roller application or brushing PROC 12: Use of blowing agents in manufacture of foam PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles</p>							
Rubber Industry - ETRMA 1.1	<p>PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying 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 12: Use of</p>	<p>ERC 3: Formulation in materials ERC 4: Industrial use of processing aids in products, not becoming part of articles ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers</p>	as such (substance itself)	<p>PC 15: Non-metal-surface treatment products PC 24: Lubricants, greases, release products PC 32: Polymer preparations and compounds</p>	SU 11: Manufacture of rubber products	yes	<p>Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger</p>	<p>AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 10: Rubber articles</p>

	blowing agents in manufacture of foam PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 21: Low energy manipulation of substances bound in materials and/or articles							
Coatings and inks - CEPE 12-04-10	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 process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying 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	ERC 2: Formulation of preparations ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release	as such (substance itself)	PC 9a: Coatings and paints, thinners, paint removes	SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A

	<p>application or brushing PROC 13: Treatment of articles by dipping and pouring PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals</p>							
Adhesives - FEICA V26	<p>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 PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying 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</p>	<p>ERC 2: Formulation of preparations ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix</p>	as such (substance itself)	N/A	SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	no	<p>Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger</p>	N/A

	blowing agents in manufacture of foam PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation							
Cosmetics - COLIPA 15-04-10	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 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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 14: Production of preparations or articles by tableting,	ERC 2: Formulation of preparations	as such (substance itself)	PC 39: Cosmetics, personal care products	SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A

	compression, extrusion, pelletisation PROC 15: Use as laboratory reagent							
Cleaning and maintenance products - AISE 15-10-09	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 process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 15: Use as laboratory reagent	ERC 2: Formulation of preparations	as such (substance itself)	PC 35: Washing and cleaning products (including solvent based products)	SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A

<p>Construction Chemicals - Dt. Bauchemie Version 2, March 2010</p>	<p>PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying 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 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p>	<p>ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release</p>	<p>as such (substance itself) in a mixture</p>	<p>PC 1: Adhesives, sealants PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay</p>	<p>SU 0: Other: former SU 21</p>	<p>yes</p>	<p>Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger</p>	<p>AC 4: Stone, plaster, cement, glass and ceramic articles AC 13: Plastic articles</p>
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Textile Chemicals - TEGEWA 2009-11-04	PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 6: Calendring operations 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 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 17: Lubrication at high energy conditions and in partly open process PROC 21: Low energy manipulation of substances bound in materials and/or articles	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 6b: Industrial use of reactive processing aids ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b:	as such (substance itself) in a mixture	PC 1: Adhesives, sealants PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 24: Lubricants, greases, release products PC 32: Polymer preparations and compounds PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids	SU 5: Manufacture of textiles, leather, fur	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A
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		Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)						
Pens, pencils, markers, modelling clay	PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including	as such (substance itself) in a mixture	PC 9b: Fillers, putties, plasters, modelling clay PC 14: Metal surface treatment products, including galvanic and electroplating products PC 18: Ink and toners PC 0: Other: artists supply and hobby preparations	SU 7: Printing and reproduction of recorded media SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	yes	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	AC 02: Other (intended to be released): TARIC 9608 (pens), TARIC 9609 (pencils) AC 10: Rubber articles AC 13: Plastic articles

		abrasive processing)						
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Uses by workers in industrial settings

Identified Use (IU) name	Process Category (PROC)	Environmental Release Category (ERC)	Substance supplied to that use in form of	Product Category (PC)	Sector of Use (SU)	Subsequent service life relevant for that use	Technical function of the substance	Article Category (AC)
Polymer industry - PEST 3.7	PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 6: Calendering operations 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 12: Use of blowing agents in manufacture of foam PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting,	ERC 3: Formulation in materials ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release	As such (substance itself) In a mixture	PC 32: Polymer preparations and compounds	SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 12: Manufacture of plastics products, including compounding and conversion	yes	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	AC 13: Plastic articles

	compression, extrusion, pelletisation PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles							
Rubber Industry - ETRMA 1.1	PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying 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 12: Use of blowing agents in manufacture of foam PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 21: Low energy manipulation of substances bound in materials and/or articles	ERC 3: Formulation in materials ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers	as such (substance itself)	PC 15: Non-metal-surface treatment products PC 24: Lubricants, greases, release products PC 32: Polymer preparations and compounds	SU 11: Manufacture of rubber products	yes	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 10: Rubber articles
Coatings and inks -	PROC 1: Use in closed process, no likelihood of	ERC 2: Formulation of	as such (substance)	PC 9a: Coatings and paints,	SU 10: Formulation [mixing]	no	Stabilisers Processing aid, not	N/A

CEPE 12-04-10	<p>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 process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying 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 13: Treatment of articles by dipping and pouring PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals</p>	<p>preparations ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release</p>	itself)	thinners, paint removes	of preparations and/or repackaging (excluding alloys)		<p>otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger</p>	
Adhesives - FEICA V26	<p>PROC 2: Use in closed, continuous process with occasional controlled exposure</p>	<p>ERC 2: Formulation of preparations ERC 5:</p>	as such (substance itself)	N/A	SU 10: Formulation [mixing] of preparation	no	<p>Stabilisers Processing aid, not otherwise listed</p>	N/A

	<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 contact)</p> <p>PROC 7: Industrial spraying</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> <p>PROC 10: Roller application or brushing</p> <p>PROC 11: Non industrial spraying</p> <p>PROC 12: Use of blowing agents in manufacture of foam</p> <p>PROC 13: Treatment of articles by dipping and pouring</p> <p>PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p>	<p>Industrial use resulting in inclusion into or onto a matrix</p> <p>ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix</p>			s and/or re-packaging (excluding alloys)		<p>Impregnation agents</p> <p>Complexing agents</p> <p>Lubricants and lubricant additives</p> <p>Process regulators, used in vulcanisation or polymerisation processes</p> <p>Release Agent; Acid Scavenger</p>	
<p>Construction Chemicals - Dt. Bauchemie Version 2, March 2010</p>	<p>PROC 3: Use in closed batch process (synthesis or formulation)</p> <p>PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)</p>	<p>ERC 2: Formulation of preparations</p> <p>ERC 3: Formulation in materials</p> <p>ERC 4: Industrial use of processing aids in processes and</p>	<p>as such (substance itself) in a mixture</p>	<p>PC 1: Adhesives, sealants</p> <p>PC 9a: Coatings and paints, thinners, paint removers</p> <p>PC 9b: Fillers, putties,</p>	<p>SU 0: Other: former SU 21</p>	yes	<p>Stabilisers</p> <p>Processing aid, not otherwise listed</p> <p>Impregnation agents</p> <p>Complexing agents</p> <p>Lubricants and lubricant additives</p>	<p>AC 4: Stone, plaster, cement, glass and ceramic articles</p> <p>AC 13: Plastic articles</p>

	<p>PROC 7: Industrial spraying</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> <p>PROC 10: Roller application or brushing</p> <p>PROC 11: Non industrial spraying</p> <p>PROC 13: Treatment of articles by dipping and pouring</p> <p>PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p>	<p>products, not becoming part of articles</p> <p>ERC 5: Industrial use resulting in inclusion into or onto a matrix</p> <p>ERC 8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix</p> <p>ERC 8d: Wide dispersive outdoor use of processing aids in open systems</p> <p>ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix</p> <p>ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release</p> <p>ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release</p>		<p>plasters, modelling clay</p>			<p>Process regulators, used in vulcanisation or polymerisation processes</p> <p>Release Agent; Acid Scavenger</p>	
<p>Textile Chemicals - TEGEWA 2009-11-04</p>	<p>PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)</p> <p>PROC 6: Calendering operations</p> <p>PROC 8a: Transfer</p>	<p>ERC 2: Formulation of preparations</p> <p>ERC 3: Formulation in materials</p> <p>ERC 4: Industrial use of processing aids in processes and</p>	<p>as such (substance itself) in a mixture</p>	<p>PC 1: Adhesives, sealants</p> <p>PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents</p>	<p>SU 5: Manufacture of textiles, leather, fur</p>	<p>no</p>	<p>Stabilisers</p> <p>Processing aid, not otherwise listed</p> <p>Impregnation agents</p> <p>Complexing agents</p> <p>Lubricants and lubricant additives</p>	<p>N/A</p>

	<p>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 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 17: Lubrication at high energy conditions and in partly open process PROC 21: Low energy manipulation of substances bound in materials and/or articles</p>	<p>products, not becoming part of articles ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 6b: Industrial use of reactive processing aids ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)</p>		<p>PC 24: Lubricants, greases, release products PC 32: Polymer preparations and compounds PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids</p>			<p>Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger</p>	
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Pulp, paper and board industry	PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release	as such (substance itself) in a mixture	PC 26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids	SU 6b: Manufacture of pulp, paper and paper products	yes	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	AC 8: Paper articles
Pens, pencils, markers, modelling clay	PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b:	as such (substance itself) in a mixture	PC 9b: Fillers, putties, plasters, modelling clay PC 14: Metal surface treatment products, including galvanic and electroplating products PC 18: Ink and toners PC 0: Other: artists supply and hobby preparations	SU 7: Printing and reproduction of recorded media SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	yes	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	AC 02: Other (intended to be released): TARIC 9608 (pens), TARIC 9609 (pencils) AC 10: Rubber articles AC 13: Plastic articles

		Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)						
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Use by professional workers

Identified Use (IU) name	Process Category (PROC)	Environmental Release Category (ERC)	Substance supplied to that use in form of	Product Category (PC)	Sector of Use (SU)	Subsequent service life relevant for that use	Technical function of the substance	Article Category (AC)
Coatings and inks - CEPE 12-04-10	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 PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 10: Roller application or brushing PROC 11: Non industrial spraying PROC 19: Hand-mixing with intimate contact and only PPE available. PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 24: High (mechanical) energy	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release	in a mixture	PC 9a: Coatings and paints, thinners, paint removes	N/A	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A

	work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals							
Adhesives - FEICA V26	PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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 13: Treatment of articles by dipping and pouring	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix	in a mixture	PC 1: Adhesives, sealants	SU 0: Other: former SU 22	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A
Cleaning and maintenance products - AISE 02-11-09	PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 10: Roller application or brushing PROC 11: Non industrial spraying PROC 13: Treatment of articles by dipping and pouring	ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 8a: Wide dispersive indoor use of processing aids in open systems	in a mixture	PC 35: Washing and cleaning products (including solvent based products)	SU 0: Other: former SU 22	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A
Construction Chemicals -	PROC 8a: Transfer of substance or	ERC 8d: Wide dispersive	in a mixture	PC 1: Adhesives	SU 0: Other:	yes	Stabilisers Processing	AC 4: Stone,

Dt. Bauchemie Version 2, March 2010	preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 10: Roller application or brushing PROC 11: Non industrial spraying PROC 13: Treatment of articles by dipping and pouring	outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release		, sealants PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay	former SU 21, former SU 22		aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	plaster, cement, glass and ceramic articles AC 13: Plastic articles
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Uses by consumers

Identified Use (IU) name	Process Category (PROC)	Environmental Release Category (ERC)	Substance supplied to that use in form of	Product Category (PC)	Sector of Use (SU)	Subsequent service life relevant for that use	Technical function of the substance	Article Category (AC)
Coatings and inks - CEPE 12-04-10	N/A	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release	N/A	PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 9c: Finger paints	N/A	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A
Adhesives - FEICA V26	N/A	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix	N/A	PC 1: Adhesives, sealants	N/A	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives	N/A

							Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	
Cosmetics - COLIPA 15-04-10	N/A	ERC 8a: Wide dispersive indoor use of processing aids in open systems	N/A	PC 39: Cosmetics, personal care products	N/A	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A
Cleaning and maintenance products - AISE 20-10-09	N/A	ERC 8a: Wide dispersive indoor use of processing aids in open systems	N/A	PC 3: Air care products PC 8: Biocidal products (e.g. disinfectants, pest control) PC 31: Polishes and wax blends PC 35: Washing and cleaning products (including solvent based products)	N/A	no	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	N/A
Construction Chemicals - Dt. Bauchemie Version 2, March 2010	N/A	ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in	N/A	PC 1: Adhesives, sealants PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay	N/A	yes	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	AC 4: Stone, plaster, cement, glass and ceramic articles AC 13: Plastic articles

		inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release						
Pens, pencils, markers, modelling clay	N/A	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)	N/A	PC 9b: Fillers, putties, plasters, modelling clay PC 18: Ink and toners PC 26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids PC 32: Polymer preparations and compounds PC 0: Other: artists supply and hobby preparations	N/A	yes	Stabilisers Processing aid, not otherwise listed Impregnation agents Complexing agents Lubricants and lubricant additives Process regulators, used in vulcanisation or polymerisation processes Release Agent; Acid Scavenger	AC 02: Other (intended to be released): TARIC 9608 (pens), TARIC 9609 (pencils) AC 10: Rubber articles AC 13: Plastic articles

Uses advised against : No information available

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : SINWON CHEMICAL CO., LTD.

Street address/P.O. Box : 92, Gongdan 1-daero 28beon-gil, Siheung-si, Gyeonggi-do, Korea

Country ID/Postcode/Place : Not available

Telephone number (if possible, indicate telefax) : +82-31-432-6688

e-mail address of competent person responsible for the SDS : swc4@swchem.co.kr

National contact : Not available

1.4 Emergency Telephone

Emergency Telephone number : +82-31-432-6688

Opening hours : Not available

Other comments (e.g. language(s) of the phone service) : Not available

SECTION 2 : HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

HI-FLOW(MI,IL,GP) is not classified according to Regulation (EC) No 1272/2008 [CLP] and **OSHA 29 CFR 1910.1200**: Not classified

2.2 Label elements

Hazard pictograms : Not applicable

Signal word : Not applicable

Hazard statement : Not applicable

Additional precautionary statements : Not applicable

2.3 Other hazards :

 According to Annex XII, the substance does not meet PBT or vPvB criteria.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixture

Description of the mixture : Not mixture

CAS No.	EC No.	REACH Registration No.	%[weight]	Name	Classification according to Regulation(EC) No 1278/2008(CLP)
557-05-1	209-151-9	Not available	100	Zinc distearate	See section 2

SECTION 4 : FIRST-AID MEASURES

4.1 Description of first aid measures

General notes

- Not available

Following inhalation

- Move victim to fresh air.

Following skin contact

- Wash off with plenty of water.

Following eye contact

- Rinse with plenty of water.

Following ingestion

- Clean mouth with water.

- Drink plenty of water afterwards.

Self-protection of the first aider

- Not available

4.2 Most important symptoms and effects, both acute and delayed

Acute effects

No acute effects are anticipated if first aid treatment is applied and is effective.

Delayed effects

No delayed effects are anticipated if first aid treatment is applied and is effective.

4.3 Indication of immediate medical attention and special treatment needed

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect

SECTION 5 : FIRE-FIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing media: Water spray, Foam, Carbon dioxide (CO₂), Dry chemical, Sand
- Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture

- Due to thermal decomposition and incomplete combustion gases such as black smoke, carbon monoxide and other toxic gases, danger based on inhalation of such gases may occur.

5.3 Advice for firefighters

- In the event of fire, wear self-contained breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment : Not available

Emergency procedures : Not available

For emergency responders

- Avoid dust formation.
- Remove all sources of ignition.

6.2 Environmental precautions

- Do not flush into surface water or sanitary sewer system.
- Avoid subsoil penetration.

6.3 Methods and material for containment and cleaning up

For containment

- Not available

For cleaning up

- Use mechanical handling equipment for cleaning up.
- Keep in suitable, closed containers for disposal.

Other information

- Not available

6.4 Reference to other sections

- See also sections 8 and 13 of the Safety Data Sheet.

SECTION 7 : HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures :

- Take precautionary measures against static discharges.

Measures to prevent fire :

- Keep away from sources of ignition - No smoking

Measures to prevent aerosol and dust generation

- Avoid formation and build up of dust.

Measures to protect the environment :

- Not available

Advice on general occupational hygiene :

- Not available

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions :

- Store at room temperature in the original container.
- Keep in a dry place.

Packaging materials : Not available

Requirements for storage rooms and vessels : Not available

Further information on storage conditions : Not available

7.3 Specific end use(s)

Recommendations : Not available

Industrial sector specific solutions : Not available

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limits

Name	Korea regulation	ACGIH regulation	Biological exposure index	OSHA regulation	NIOSH regulation	EU regulation	United Kingdom
Fatty acids, C16-18, zinc salts	Not available	Not available	Not available	Not available	Not available	Not available	Not available

8.2 Exposure controls

8.2.1 Appropriate engineering controls :

Substance/mixture related measures to prevent exposure during identified uses: No specific measures

Structural measures to prevent exposure: No specific measures

Organisational measures to prevent exposure: No specific measures

Technical measures to prevent exposure: No specific measures

8.2.2 Individual protection measures, such as personal protective equipment:

Eye and face protection : Not available

Skin protection

Hand protection : Not available

Other skin protection : Not available

Respiratory protection : Not available

Thermal hazards : Not available

8.2.3 Environmental exposure controls

Prevent entry into waterways, sewers, basements or confined areas

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Description : Solid

Color : White

Odor : Odorless

Odor threshold : Not available

pH : Not available

Melting point/freezing point : 121°C (101.325 kPa)

Initial boiling point and boiling range : Not applicable

Flash point : Not applicable

Evaporation rate : Not available

Flammability (solid, gas) : Non-flammable

Upper/lower flammability or explosive limits : Not applicable

Vapor pressure : The volatility of solid substances with a melting point of 121°C can be safely assumed to be negligible.

Solubility (ies) : Ranges from 0.3 to 1.8 mg/L depending on test conditions.

Vapor density : Not available

Relative density : Not available

Partition coefficient: n-octanol/water : Not applicable

Auto ignition temperature : Not applicable

Decomposition temperature : 330°C

Viscosity : Not available

Explosive properties : Not applicable

Oxidizing properties : Not applicable

Molecular weight : $\geq 576.22 \leq 632.33$ g/mol

Surface tension : 64.56 mN/m at 20.5 °C (90 % saturated aqueous solution)

9.2 Other information

- Not available

SECTION 10 : STABILITY AND REACTIVITY

10.1 Reactivity

- Not available

10.2 Chemical stability

- Not available

10.3 Possibility of hazardous reactions

- Not available

10.4 Conditions to avoid

- Not available

10.5 Incompatible materials

- Not available

10.6 Hazardous decomposition products

- Not available

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

(a) Acute toxicity;

Oral - Rat, LD₅₀ > 5000 mg/kg bw (OECD TG 401)

Dermal - Rabbit, LD₅₀ > 2000 mg/kg bw

Inhalation - Rat, 4hr -LC₅₀ > 50 mg/L

(b) Skin Corrosion/Irritation; - In test on skin irritation with rabbits, skin irritations were not observed (OECD TG 404).

(c) Serious Eye Damage/Irritation; - In test on eye irritation with rabbits, eye irritations were not observed (OECD TG 405).

(d) Respiratory sensitization; - Taking into account the complete absence of skin sensitization potential of zinc compounds, respiratory sensitization is not expected to be of concern for the zinc and zinc compounds including Fatty acids, C16-18, zinc salts.

(e) Skin Sensitization; - No skin sensitization reactions were observed in humans (Schwartz-Peck Prophetic Patch and Draize-Shelanski Repeated Insult Patch Tests).

(f) Carcinogenicity; - Not available

(g) Mutagenicity; - The overall weight of the evidence from the existing in vitro and in vivo genotoxicity assays suggests that zinc compounds do not have biologically relevant genotoxic activity.

(h) Reproductive toxicity; - No evidence exists that would justify classification of zinc compounds for effects to neither fertility nor developmental toxicity.

(i) Specific organ toxicity (single exposure); - In acute inhalation toxicity test with rats, depression was observed.

(j) Specific organ toxicity (repeated exposure); - In repeated oral toxicity study with mice for 13 weeks, repeated toxicity related effects were not observed. (NOEL = 3000 mg/kg bw/day). Animals in the 30,000 ppm group showed retarded growth along with low food intake, abnormal values in a few hematological parameters and regressive changes of the pancreatic exocrine gland. There were no remarkable clinical signs in either sex in groups ≤ 3,000 ppm (OECD TG 408, read across; CAS No. 7733-02-0).

(k) Aspiration Hazard; - Not available

SECTION 12 : ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity

Fish	- 96hr-LC ₅₀ (<i>Brachydanio rerio</i>) > 10000 mg/L (EU Method C.1, GLP)
Invertebrates	- 48hr-LC ₅₀ (<i>Daphnia magna</i>) > 100 mg/L (nominal at pH 6)(mobility, OECD TG 202, GLP)
Algae	- 72hr-EC ₅₀ (<i>Pseudokirchneriella subcapitata</i>) = 70.9 mg/L (growth rate, OECD TG 201, GLP)
Chronic toxicity	
Fish	- 96hr-NOEC (Species not reported) = 0.9 mg/L (OECD TG 203)
Invertebrates	- Not available
Algae	- 72hr-NOEC (<i>Pseudokirchneriella subcapitata</i>) = 19.3 mg/L (growth rate, OECD TG 201, GLP)
12.2 Persistence and Degradability	Persistence : Not available Degradability : readily biodegradable, but failing 10-day window (93% biodegradation observed after 28 d)(OECD TG 301D)
12.3 Bioaccumulative potential	- Based on read-across of zinc bioaccumulation data and the fact that Fatty acids, C16-18, zinc salts is readily biodegradable, the substance is not expected to be bioaccumulative .
12.4 Mobility in soil	- Not applicable
12.5 Results of PBT and vPvB assessment	- Not available
12.6 Other adverse effects	- Not available

SECTION 13 : DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product/Packaging disposal

Not available

Waste codes / Waste designation according to LoW(2015) : Not available

Waste treatment-relevant information

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Sewage disposal-relevant information

Consider the required attentions in accordance with waste treatment management regulation.

Other disposal recommendations

Not available

SECTION 14 : TRANSPORT INFORMATION

14.1 UN Number : Not applicable

14.2 UN Proper shipping name : Not applicable

14.3 Transport Hazard class : Not applicable

14.4 Packing group : Not applicable

14.5 Environmental hazards : Not applicable

14.6 Special precautions for user

 in case of fire : Not applicable

 in case of leakage : Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not Available

SECTION 15 : REGULATORY INFORMATION

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

EU Regulatory Information

EU classification :

EU CLP 2008 :

Classification : Not regulated
Hazard statement codes : Not applicable
Precautionary statement codes : Not applicable

EU SVHC list : Not regulated
EU Authorisation List : Not regulated
EU Restriction list : Not regulated

Foreign Regulatory Information

External information :

U.S.A management information (OSHA Regulation) : Not regulated
U.S.A management information (CERCLA Regulation) : Not regulated
U.S.A management information (EPCRA 302 Regulation) : Not regulated
U.S.A management information (EPCRA 304 Regulation) : Not regulated
U.S.A management information (EPCRA 313 Regulation) : Not regulated
Korea management information : Not regulated
Substance of Roterdame Protocol : Not regulated
Substance of Stockholme Protocol : Not regulated
Substance of Montreal Protocol : Not regulated

15.2 Chemical safety assessment : In accordance with REACH Article 14, a Chemical Safety Assessment has been carried out for this substance.

SECTION 16 : OTHER INFORMATION

Product safety data sheet for HI-FLOW(MI,IL,GP) prepared in accordance with Regulation (EU) 2015/830 (REACH), Annex II, and OSHA 29 CFR 1910.1200

16.1 Indication of changes

Date Updated : 31 May 2016

Version : Rev. 2

16.2 Abbreviations and acronyms

ACGIH = American Conference of Government Industrial Hygienists
CLP = Classification Labelling Packaging Regulation ; Regulation (EC) No 1272/2008
CAS No. = Chemical Abstracts Service number
DMEL = Derived Minimal Effect Levels
DNEL = Derived No Effect Level
EC Number = EINECS and ELINCS Number (see also EINECS and ELINCS)
EU = European Union
IARC = International Agency for Research on Cancer
ISHL = Industrial Safety & Health Law
NIOSH = National Institute for Occupational Safety & Health
NTP = National Toxicology Program
OSHA = European Agency for Safety and Health at work
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC(s) = Predicted No Effect Concentration(s)
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 2015/830
STP = Sewage Treatment Plant
SVHC = Substances of Very High Concern
vPvB = Very Persistent and Very Bioaccumulative
UN = United Nations
MARPOL = International Convention for the Prevention of Pollution from Ships (IMO)
IBC = Intermediate Bulk Container
CERCLA = Comprehensive Environmental Response, Compensation & Liability Act (US)
EPCRA = Emergency Planning and Community Right-to-Know Act (US)
EINECS = European Inventory of Existing Commercial chemical Substances
ELINCS = European List of Notified Chemical Substances

16.3 Key literature reference and sources for data :

OECD SIDS; <http://webnet.oecd.org/hpv/ui/Search.aspx>
REACH information on registered substances; <http://apps.echa.europa.eu/registered/registered-sub.aspx>
International Uniform Chemical Information Database(IUCLID); <http://esis.jrc.ec.europa.eu/>

European Union Risk Assessment Report (RAR); <http://esis.jrc.ec.europa.eu/>
U.S. National library of Medicine(NLM) Hazardous Substances Data Bank(HSDB);
<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>
TOMES-LOLI®; <http://www.rightanswerknowledge.com/loginRA.asp>
ECOTOX; <http://cfpub.epa.gov/ecotox/>
National Emergency Management Agency-Korea dangerous material inventory management system;
<http://www.nema.go.kr/hazmat/main/main.jsp>
The Chemical Database -The Department of Chemistry at the University of Akron;
<http://ull.chemistry.uakron.edu/erd/>
Korea Maritime Dangerous Goods Inspection Center; <http://www.komdi.or.kr/index.html>

16.4 Classification and procedure used to derive the classification for mixtures according to Regulation(EC) 1272/2008(CLP):

Classification according to Regulation (EC) 1272/2008 Classification procedure

16.5 Relevant R-phrases and/or H-statements (number and full text) : Not available

16.6 Training advice :

- Do not handle until all safety precautions have been read and understood.

16.7 Further information :

This safety data sheet (SDS) is based on the legal provisions of the REACH Regulation and OSHA 29 CFR 1910.1200, as amended. Its contents are intended as a guide to the appropriate precautionary handling of the material. It is the responsibility of recipients of this SDS to ensure that the information contained therein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. Information and instructions provided in this SDS are based on the current state of scientific and technical knowledge at the date of issue indicated. It should not be construed as any guarantee of technical performance, suitability for particular applications, and does not establish a legally valid contractual relationship. This version of the SDS supersedes all previous versions.