

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

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

Product Name	Melamine
Chemical Name	1,3,5-triazine-2,4,6-triamine
Chemical Formula	$C_3H_6N_6$
CAS No.	108-78-1
EC No.	203-615-4
REACH Registration No.	01-2119485947-16-0017
1.2 Relevant identified uses of the su	bstance or mixture and uses advised against
Identified Use(s)	Melamine (C ₃ H ₆ N ₆) is a product in form of white powder used for the production
	of a wide range of synthetic resins.
	Formulation or re-packing
	• Use as intermediate for resins (reacted melamine)
	• Use as additive in foams
	• Use as additive in intumescent coatings
	• PU foams - Workers (industrial)
	• Intumescent coatings - Workers (industrial)
	 Intumescent coatings - Professional Workers
Uses Advised Against	Addition to food or feed products.
1.3 Details of the supplier of the safe	
Company Identification	Oatar Melamine Co
Address	P.O. Box 50001, Mesaieed,
	Oatar.
Telephone	(+974) 44228888
E-mail	aawad@gafco.com.ga
Only representative of a non-Commun	ity manufacturer
Company Identification	MUNTAJAT B.V.
Address	Prinses Margrietplantsoen 78-A
	2595 BR, La Haye
	Pays Bas
Telephone	+31(0)70 219 7000
E-mail	REACH@muntajatbv.com
Website	www.muntajatbv.com
1.4 Emergency telephone number	
For Spill, Leak, Fire, Exposure or	Within USA and Canada: 1-800-424-9300
Accident, Call CHEMTREC Day or	Outside USA and Canada: +1 703-741-5970 and +1-703-527-3887 (collect calls
Night	accepted)

2.1 Classification of the substance or mixture Regulation (EC) No. 1272/2008 (CLP) Carc. 2

272/2008 (CLP)	Carc. 2 :Suspected of causing cancer. Repr. 2 :Suspected of damaging fertility. (Testes, Sperm) STOT RE 2 : May cause damage to organs through prolonged or repeated exposure: Urinary tract.
	According to Regulation (EC) No. 1272/2008 (CLP) Melamine

Hazard Pictogram(s)

2.2 Label elements

Product Name

Signal Word(s) Hazard Statement(s) GHS08 Warning H351: Suspected of causing cancer. H361f: Suspected of damaging fertility. (Testes, Sperm) H373: May cause damage to organs through prolonged or repeated exposure: Urinary tract.



Precautionary Statement(s)	 P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P260: Do not breathe dust. P280: Wear protective gloves/protective clothing/eye protection/face protection.
2.3 Other hazards	P308+P313: IF exposed or concerned: Get medical advice/attention.P501: Dispose of contents in accordance with local, state or national legislation.May be harmful if swallowed.
2.4 Additional Information	Dust may have irritant effect on skin, eyes and air passages. For full text of H/P Statements see section 16.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

HAZARDOUS INGREDIENT(S)	 EC No. / REACH Registration No.	%W/W		Hazard Pictogram(s)
Melamine	 203-615-4 01-2119485947-16-0017		Carc. 2 H351 Repr. 2 H361f STOT RE 2 H373	GHS08

Contains no non-classified vPvB substances or substances with a Union workplace exposure limit. For full text of H/P Statements see section 16.

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures	
Inhalation	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, obtain medical attention.
Skin Contact	After contact with skin, wash immediately with plenty of soap and water.
Eye Contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	If swallowed, rinse mouth with water (only if the person is conscious). Get medical advice/attention if you feel unwell.
4.2 Most important symptoms and eff	ects, both acute and delayed
	Dust may have irritant effect on skin, eyes and air passages.
4.3 Indication of any immediate medi	cal attention and special treatment needed
	IF exposed or concerned: Get medical advice/attention.
SECTION 5: FIREFIGHTING MEAS	SURES
SECTION 5: FIREFIGHTING MEAS	SURES
SECTION 5: FIREFIGHTING MEAS 5.1 Extinguishing media	SURES
	Extinguish with carbon dioxide, dry chemical, foam or waterspray.
5.1 Extinguishing media	
5.1 Extinguishing media Suitable Extinguishing media	Extinguish with carbon dioxide, dry chemical, foam or waterspray. Water with full jet.
5.1 Extinguishing media Suitable Extinguishing media Unsuitable extinguishing media	Extinguish with carbon dioxide, dry chemical, foam or waterspray. Water with full jet. ubstance or mixture Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide,
 5.1 Extinguishing media Suitable Extinguishing media Unsuitable extinguishing media 5.2 Special hazards arising from the s 	Extinguish with carbon dioxide, dry chemical, foam or waterspray. Water with full jet. ubstance or mixture
5.1 Extinguishing media Suitable Extinguishing media Unsuitable extinguishing media	Extinguish with carbon dioxide, dry chemical, foam or waterspray. Water with full jet. ubstance or mixture Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide,

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures



	Ensure adequate ventilation. Ensure suitable personal protection (including respiratory protection) during removal of spillages. Avoid generation of dust. Do not breathe dust.
6.2 Environmental precautions	
	Do not allow to enter drains, sewers or watercourses.
6.3 Methods and material for co	ontainment and cleaning up
	Sweep spilled substances into containers if appropriate moisten first to prevent dusting. Carefully collect remainder. Do not wash spillage with water as area will be slippery and will block sewage.
6.4 Reference to other sections	
	See Also Section 8, 13.
SECTION 7: HANDLING AND	STORAGE
7.1 Precautions for safe handlin	12
	Obtain special instructions before use. Do not handle until all safety precautions
	have been read and understood. Provide adequate ventilation. Avoid generation of
	dust. Do not breathe dust. Wear protective gloves/protective clothing/eye
	protection/face protection. Wash hands and exposed skin thoroughly after
	handling.
7.2 Conditions for safe storage,	
	Keep from direct sunlight. Store locked up. Store in dry place. Keep container
	tightly closed.
Storage temperature	Ambient.
Storage life	Stable under normal conditions.
Incompatible materials	Strongly acidic, Strong oxidising agents.
7.3 Specific end use(s)	
	Formulation or re-packing
	• Use as intermediate for resins (reacted melamine)
	• Use as additive in foams
	• Use as additive in intumescent coatings
	• PU foams - Workers (industrial)
	 Intumescent coatings - Workers (industrial)
	 Intumescent coatings - Workers (industrial) Intumescent coatings - Professional Workers

• Intumescent coatings - Professional Workers

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA	LTEL (8 hr TWA	STEL (ppm)	STEL (mg/m ³)	Note
		ppm)	mg/m³)			
Melamine	108-78-1					None assigned

Source: UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020), United Kingdom

8.1.2 PNECs and DNELs

DNEL / DMEL	Oral	Inhalation	Dermal
Industry - Long Term - Local effects			
Industry - Long Term - Systemic effects		8.3 mg/m ³	11.8 mg/kg bw/day
Industry - Short term - Local effects			
Industry - Short term - Systemic effects		82.3 mg/m ³	
Consumer - Long Term - Local effects			
Consumer - Long Term - Systemic effects	0.42 mg/kg bw/day	1.5 mg/m ³	4.2 mg/kg bw/day
Consumer - Short term - Local effects			
Consumer - Short term - Systemic effects			

Environment	PNEC
Aquatic Compartment (including sediment)	Fresh water: 0.51 mg/l
	Intermittent release: 2 mg/l
	Sea water: 0.051 mg/l
	Fresh water (Sediment): 13.06 mg/kg dw
	Sea water (Sediment): 1.306 mg/kg dw



Terrestrial Con	npartment	Sewage Treatment Plant: 100 mg/l
Atmospheric C	Compartment	Soil: 2.312 mg/kg dw
8.2 Exposure		
11 1	0 0	Ensure adequate ventilation.
8.2.2. Persona	l protection equipment	
	Eye Protection	Wear protective eyewear (goggles, face shield, or safety glasses).
	Skin protection	Wear protective gloves. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.
	Respiratory protection	An approved dust mask should be worn if dust is generated during handling.
	Thermal hazards	Not applicable.

8.2.3. Environmental Exposure Controls Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

9.1 Information on basic physical and	chemical properties
Physical state	Powder.
Colour	White.
Odour	Odourless.
Melting point/freezing point	361°C @ 101.3 kPa
Boiling point or initial boiling point and	>361°C (Sublimation)
boiling range	
Flammability	Non-flammable.
Lower and upper explosion limit	Not known.
Flash Point	Not applicable.
Auto-ignition temperature	>400°C
Decomposition Temperature	>361°C
pH	7.5 - 8.0 (aqueous solution)
Kinematic Viscosity	Not applicable.
Solubility	Solubility (Water) : Slightly soluble: 3.48 g/l @ 20°C
	Solubility (Other): Very slightly soluble: Acetone (0.3 g/l), Ethanol (0.6 g/l),
	Dimethylformamide (0.1 g/l), Soluble: Ethyl cellosolve (11.2 g/l) @ 30°C
Partition coefficient n-octanol/water (log	g -1.22 @ 20°C
value)	
Vapour pressure	1.0E-8 Pa @ 20°C
Density and/or relative density	Density (g/ml): 1570 kg/m ³ , Relative density: 1.57 @ 20°C
Relative vapour density	Not applicable.
Particle characteristics	Fine powder with mass median diameter: $<100 \ \mu m$
9.2 Other information	
Dissociation constant	6.7 pKa @ 20°C
Molecular weight	126.12 g/mol
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical Stability

Stable under normal conditions.

Stable under normal conditions.



10.3 Possibility of hazardous reactions	3	
	No hazardous reactions known if used for its intended purpose.	
10.4 Conditions to avoid		
	Keep away from moisture.	
10.5 Incompatible materials		
	Strongly acidic, Strong oxidising agents.	
10.6 Hazardous decomposition products		
	No hazardous decomposition products known.	

SECTION 11: TOXICOLOGICAL INFORMATION

	s defined in Regulation (EC) No 1272/2008
Acute toxicity - Ingestion	May be harmful if swallowed.
Agute toxicity Skin Contact	LD50 (rat): 3161 mg/kg Not classified.
Acute toxicity - Skin Contact	Low acute toxicity. LD50 (rat): >2000 mg/kg
Acute toxicity - Inhalation	Not classified.
Redic toxicity - initiation	Low acute toxicity. LC50 (rat): >5190 mg/m ³
Skin corrosion/irritation	Not classified.
	Non-irritant.
Serious eye damage/irritation	Not classified.
~	Unlikely to cause eye irritation.
Skin sensitization data	Not classified.
	It is not a skin sensitiser in animal tests.
	Sensitisation (guinea pig) - Negative
Respiratory sensitization data	Not classified.
Germ cell mutagenicity	Not classified.
	There is no evidence of mutagenic potential.
	Many mutagenicity tests, covering various endpoints of mutagenicity/genotoxicity,
	were performed with melamine. The predominant result is negative.
Carcinogenicity	Suspected of causing cancer.
	LOAEL (oral) (rat): 126 mg/kg bw/day (Chronic, Bladder).
	Statistically significant increases in the incidence of transitional-cell carcinoma and
	combined incidences of transitional-cell carcinoma and papilloma in the urinary bladder were observed in male rats exposed to 4500 ppm melamine (ca. 263 mg/kg
	bw/day), but not when exposed to 2250 ppm melamine. With one exception,
	urinary bladder stones were observed in male rats that had transitional-cell
	carcinomas. Female rats did not develop tumours even when exposed up to 9000
	ppm. No neoplastic findings related to treatment were observed in male or female
	mice.
Reproductive toxicity	Suspected of damaging fertility in male rats. (Testes, Sperm)
1	NOAEL (oral): 89 mg/kg bw/day (Sub-chronic, 168 hours/week rat).
	Adverse effects on the male reproductive system were detected in an EOGRTS
	performed according to OECD TG 443 in rats, following the ECHA decision
	number TPE-D-2114373433-50-01. Tubular degeneration/atrophy in the testis was
	observed with related minimal cellular debris in the epididymis in F0 and F1 males.
	In addition, an increase in sperm abnormalities (detached heads) was observed in
	the F0 and F1 males.
Lactation	Not classified.
STOT - single exposure	None anticipated.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure: Urinary tract.
	NOAEL (oral) (rat): 72 mg/kg bw/day (Sub-chronic, Bladder, Kidneys)
	When tested in oral repeated dose toxicity studies in rats, melamine caused
	formation of urinary calculi in the bladder and hyperplasia in the bladder
	epithelium of both sexes. The effects were dose-related, with the male rats being
	more sensitive than females to the effects in the bladder.
	Mice were also investigated: The incidence of bladder stones was dose related as in
	rats, being greater in males than in females, but starting at much higher doses than
	in rats.
Aspiration hazard	Not classified.
11.2 Information on other hazards	
	Dust may have irritant effect on skin, eyes and air passages.

Melamine

INFORMATIO

SECTION 12: ECOLOGICAL INFO	RMATION
12.1 Toxicity	
Acute	Low toxicity to aquatic organisms. LC50 (Rainbow trout): >3000 mg/l LC50 (Daphnia magna): 200 mg/l
Chronic Algae	NOEC (Fathead minnow (Pimephales promelas)): ≥ 5.1 mg/l NOEC (Daphnia magna): ≥ 11 mg/l EC50 Fresh water: 325 mg/l
12.2 Persistence and degradability	NOEC Fresh water: 98 mg/l This substance is not readily biodegradable. Not expected to be inherently biodegradable.
12.3 Bioaccumulative potential	The substance has no potential for bioaccumulation. Bioconcentration factor (BCF): 3.8 L/kg ww
12.4 Mobility in soil	The substance is predicted to have moderate mobility in soil.
12.5 Results of PBT and vPvB assessm12.6 Endocrine disrupting properties	nent Not classified as PBT or vPvB.
12.0 Endocrine disrupting properties12.7 Other adverse effects	Does not cause endocrine disruption. None anticipated.
SECTION 13: DISPOSAL CONSIDE	RATIONS
13.1 Waste treatment methods13.2 Additional Information	Dispose of empty containers and wastes safely. Recover or recycle if possible. Disposal should be in accordance with local, state or national legislation.
SECTION 14: TRANSPORT INFORM	MATION
Not classified as hazardous for transp	ort.
14.1 UN number or ID number14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable Not applicable
14.5 Environmental hazards	Not classified as a Marine Pollutant.
14.6 Special precautions for user14.7 Maritime transport in bulk according	Not known ording to IMO instruments Not known
SECTION 15: REGULATORY INFO	RMATION
15.1 Safety, health and environmenta	l regulations/legislation specific for the substance or mixture

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

European Regulations - Authorisations and/or Restrictions On Use Candidate List of Substances of Very Melamine (108-78-1) High Concern for Authorisation REACH: Annex XIV list of substances Not listed subject to authorisation REACH: Annex XVII Restrictions on Not listed the manufacture, placing on the market



and use of certain dangerous substances, mixtures and articles

Community Rolling Action Plan (CoRAP)	Not listed
Regulation (EU) N° 2019/1021 of the	Not listed
European Parliament and of the Council	
on persistent organic pollutants	
Regulation (EC) N° 1005/2009 on	Not listed
substances that deplete the ozone layer	
Regulation (EU) \dot{N}° 649/2012 of the	Not listed
European Parliament and of the Council	
concerning the export and import of	
hazardous chemicals	
National regulations	
Inventory Status	Listed in: Australia, Canada (DSL), China, Japan, Korea, Taiwan, New Zealand
•	(HSNO) – HSNO Approval: HSR002503, New Zealand (NZIoC), Philippines.
15.2 Chemical Safety Assessment	
	A REACH chemical safety assessment has been carried out.
SECTION 16: OTHER INFORMATION	ON
The following sections contain revisions	or new statements: 1-16

LEGEND

Hazard Pictogram(s)

Hazard Pictogram(s)	
	GHS08
Hazard classification	Carc. 2 : Carcinogenicity, Category 2 Repr. 2 : Reproductive toxicity, Category 2 STOT RE 2 : Specific target organ toxicity — repeated exposure, Category 2
Hazard Statement(s)	H351: Suspected of causing cancer. H361f: Suspected of damaging fertility. H373: May cause damage to organs through prolonged or repeated exposure.
Precautionary Statement(s)	 P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P260: Do not breathe dust. P280: Wear protective gloves/protective clothing/eye protection/face protection. P308+P313: IF exposed or concerned: Get medical advice/attention. P314: Get medical advice/attention if you feel unwell. P405: Store locked up. P501: Dispose of contents in accordance with local, state or national legislation.
Acronyms	CAS : Chemical Abstracts Service CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures DNEL : Derived No Effect Level EC : European Community LTEL : Long term exposure limit PBT : Persistent, Bioaccumulative and Toxic PNEC : Predicted No Effect Concentration REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals STEL : Short term exposure limit STOT : Specific Target Organ Toxicity vPvB : very Persistent and very Bioaccumulative



Key literature references and sources for Regulation (EC) No. 1272/2008 (CLP) data used to compile the SDS	
Training Advice	Regular safety training as appropriate
Disclaimers	Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Qatar Melamine Co gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Qatar Melamine Co accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

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Exposure Scenario 1: Formulation or re-packing - Formulation or re-packaging

SECTI	ON 1:	1.0 Title of Exposure Scenario:	
		Formulation or re-packing - Formulation or re-packaging	
Contril	outing scenario controll	ing environmental exposure	
CS1	Formulation or re-pack	aging	ERC2
Contril	outing scenario controll	ing worker exposure	
CS2	Chemical production of processes with equivale	refinery in closed process without likelihood of exposure or ent containment conditions	PROC2
CS3		ation in the chemical industry in closed batch processes with approximation or processes with equivalent containment conditions	PROC3
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CS5	Mixing or blending in b	patch processes (Solid)	PROC5
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CS10	Use as laboratory reagent (Solid) PROC15		PROC15
CS11	Hand-mixing with intimate contact and only PPE available (Solid) PROC19		PROC19
CS12	Manual maintenance (cleaning and repair) of machinery (Solid) PROC28		PROC28
CS13	Mixing or blending in batch processes (Liquid) PROC5		PROC5
CS14	Transfer of substance o (Liquid)	r mixture (charging and discharging) at dedicated facilities	PROC8b
CS15			PROC15
CS16	Manual maintenance (cleaning and repair) of machinery (Liquid) PROC28		PROC28
CS17	Hand-mixing with intin	nate contact and only PPE available (Liquid)	PROC19
CS18	Transfer of substance o facilities (Liquid)	r mixture (charging and discharging) at non-dedicated	PROC8a
SECTI	ON 2:	2.0 Conditions of use	
2.1		Contributing scenario controlling environmental exposur 2.1 Formulation or re-packaging (ERC2)	re:
Amoun	t used, frequency and d	uration of use (or from service life)	
Daily u	se amount at site: Not rele	evant for this material.	
	use amount at site: Not r		
Conditi	ions and measures relat	ed to biological sewage treatment plant	
Biologi	cal STP: Standard [Effec	tiveness water: 2.77%]	
Dischar	ge rate of STP: >= 2E3 n	n3/day	
Applica	tion of the STP sludge or	agricultural soil: Yes	
Other g •		ions affecting environmental exposure er flow: >= 1.8E4 m3/day	



2.2	Contributing scenario controlling worker exposure exposure:
	2.2 Chemical production or refinery in closed process without likelihood of exposure
	or processes with equivalent containment conditions (PROC2)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	ct: Solid (medium dusty form)
Amount used, frequency and d	luration of use (or from service life)
Duration of activity: <=8.0 h/day	ý
Technical conditions and meas	sures to control dispersion from source towards the worker
General ventilation: Basic generation	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: No. (Effective	veness dermal: 0 %)
Other given operational condit	tions affecting workers exposure
Place of use: Indoor	
2.3	Contributing scenario controlling worker exposure exposure:
	2.3 Manufacture or formulation in the chemical industry in closed batch processes
	with occasional controlled exposure or processes with equivalent containment conditions (PROC3)
Product (article) characteristic	, ,
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	ct: Solid (medium dusty form)
Amount used, frequency and d	luration of use (or from service life)
Duration of activity: <=8.0 h/day	y .
Technical conditions and meas	sures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: No. (Effectiv	veness dermal: 0 %)
Other given operational condit	tions affecting workers exposure
Place of use: Indoor	
2.4	Contributing scenario controlling worker exposure exposure:
	2.4 Chemical production where opportunity for exposure arises (PROC4)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %



Physical form of the used produc	et: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	7
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.5	Contributing scenario controlling worker exposure exposure: 2.5 Mixing or blending in batch processes (Solid) (PROC5)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	et: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	7
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.6	Contributing scenario controlling worker exposure exposure: 2.6 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Solid) (PROC8a)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	et: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	1
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)



Occupational Health and Safety	Management System: Advanced
	Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)
Dermal protection: Yes (Chemi [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational cond	itions affecting workers exposure
Place of use: Indoor	
2.7	Contributing scenario controlling worker exposure exposure: 2.7 Transfer of substance or mixture (charging and discharging) at dedicated facilities (Solid) (PROC8b)
Product (article) characteristi	c
Percentage (w/w) of substance	in mixture/article: <= 100 %
Physical form of the used produ	act: Solid (medium dusty form)
Amount used, frequency and	duration of use (or from service life)
Duration of activity: <=8.0 h/da	ıy
Technical conditions and mea	sures to control dispersion from source towards the worker
General ventilation: Basic gene	ral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No []	Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)
Dermal protection: Yes (Chemi [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational cond	itions affecting workers exposure
Place of use: Indoor	
2.8	Contributing scenario controlling worker exposure exposure: 2.8 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)
Product (article) characteristi	c
Percentage (w/w) of substance	in mixture/article: <= 100 %
Physical form of the used produ	act: Solid (medium dusty form)
Amount used, frequency and	duration of use (or from service life)
Duration of activity: <=8.0 h/da	ıy
Technical conditions and mea	sures to control dispersion from source towards the worker
General ventilation: Basic gene	ral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No []	Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)



	onditions affecting workers exposure
Place of use: Indoor	
2.9	Contributing scenario controlling worker exposure exposure: 2.9 Tabletting, compression, extrusion, pelletisation, granulation (PROC14)
Product (article) character	istic
Percentage (w/w) of substan	ce in mixture/article: <= 100 %
Physical form of the used pr	oduct: Solid (medium dusty form)
Amount used, frequency a	nd duration of use (or from service life)
Duration of activity: <=8.0 l	n/day
Technical conditions and r	neasures to control dispersion from source towards the worker
General ventilation: Basic g	eneral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Sa	fety Management System: Advanced
Local exhaust ventilation: N	o [Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures a	related to personal protection, hygiene and health evaluation
Respiratory protection: No.	(Effectiveness inhalation: 0 %)
Dermal protection: No. (Eff	ectiveness dermal: 0 %)
Other given operational co	nditions affecting workers exposure
Place of use: Indoor	
2.10	Contributing scenario controlling worker exposure exposure:2.10 Use as laboratory reagent (Solid) (PROC15)
Product (article) character	istic
Percentage (w/w) of substan	ce in mixture/article: <= 100 %
Physical form of the used pr	oduct: Solid (medium dusty form)
Amount used, frequency a	nd duration of use (or from service life)
Duration of activity: <=8.01	n/day
Technical conditions and r	neasures to control dispersion from source towards the worker
General ventilation: Basic g	eneral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Sa	fety Management System: Advanced
Local exhaust ventilation: N	o [Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures	related to personal protection, hygiene and health evaluation
Respiratory protection: No.	(Effectiveness inhalation: 0 %)
Dermal protection: No. (Eff	ectiveness dermal: 0 %)
Other given operational co	onditions affecting workers exposure
Place of use: Indoor	
2.11	Contributing scenario controlling worker exposure exposure: 2.11 Hand-mixing with intimate contact and only PPE available (Solid) (PROC19)

Percentage (w/w) of substance in	a mixture/article: <= 100 %
Physical form of the used produc	
	luration of use (or from service life)
· - •	
Duration of activity: <=4.0 h/day	
	ures to control dispersion from source towards the worker
-	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
- ·	Management System: Advanced
	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 95%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.12	Contributing scenario controlling worker exposure exposure:
Product (article) characteristic	2.12 Manual maintenance (cleaning and repair) of machinery (Solid) (PROC28)
Percentage (w/w) of substance in	
Physical form of the used produc	
	· · · · · · · · · · · · · · · · · · ·
	luration of use (or from service life)
Duration of activity: <=8.0 h/day	
	ures to control dispersion from source towards the worker
	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
	Management System: Advanced
	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.13	Contributing scenario controlling worker exposure exposure: 2.13 Mixing or blending in batch processes (Liquid) (PROC5)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 30 %
Physical form of the used produc	et: Liquid
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	/
Technical conditions and meas	ures to control dispersion from source towards the worker

-	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
Operating temperature: <= 115 °	C
2.14	Contributing scenario controlling worker exposure exposure:
	2.14 Transfer of substance or mixture (charging and discharging) at dedicated facilities (Liquid) (PROC8b)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 30 %
Physical form of the used produc	zt: Liquid
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	I
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
Operating temperature: <= 115 °	С
2.15	Contributing scenario controlling worker exposure exposure:
	2.15 Use as laboratory reagent (Liquid) (PROC15)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 30 %
Physical form of the used produc	et: Liquid
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	/
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
	ffectiveness inhalation: 0%, Dermal: 0%]



Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)
Dermal protection: No. (Effecti	veness dermal: 0 %)
Other given operational condi	itions affecting workers exposure
Place of use: Indoor	
Operating temperature: <= 115	°C
2.16	Contributing scenario controlling worker exposure exposure:
	2.16 Manual maintenance (cleaning and repair) of machinery (Liquid) (PROC28)
Product (article) characteristi	c
Percentage (w/w) of substance i	n mixture/article: <= 30 %
Physical form of the used produ	ict: Liquid
Amount used, frequency and	duration of use (or from service life)
Duration of activity: <=8.0 h/da	y
Technical conditions and mea	sures to control dispersion from source towards the worker
General ventilation: Basic general	ral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No []	Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)
Dermal protection: Yes (Chemi [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condi	itions affecting workers exposure
Place of use: Indoor	
Operating temperature: <= 115	°C
2.17	Contributing scenario controlling worker exposure exposure:2.17 Hand-mixing with intimate contact and only PPE available (Liquid) (PROC19)
Product (article) characteristi	c
Percentage (w/w) of substance i	in mixture/article: <= 30 %
Physical form of the used produ	ict: Liquid
Amount used, frequency and	duration of use (or from service life)
Duration of activity: <=8.0 h/da	у
Technical conditions and mea	sures to control dispersion from source towards the worker
Ventilation working room: Gen	eral ventilation (mechanical)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No []	Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)
Dermal protection: Yes (Chemi [Effectiveness dermal: 95%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection



Other given operational conditio	ns affecting workers exposure	
Place of use: Indoor		
Operating temperature: <= 115 °C		
2	Contributing scenario controlling worker e 2.18 Transfer of substance or mixture (chargination activities (Liquid) (PROC8a)	
Product (article) characteristic		
Percentage (w/w) of substance in n	nixture/article: <= 30 %	
Physical form of the used product:	Liquid	
Amount used, frequency and du	ration of use (or from service life)	
Duration of activity: <=8.0 h/day		
Technical conditions and measur	es to control dispersion from source toward	ds the worker
General ventilation: Basic general	ventilation (1-3 air changes per hour) (Effecti	veness inhalation: 0 %)
Occupational Health and Safety M		
	ectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures related	to personal protection, hygiene and health	evaluation
Respiratory protection: No. (Effect	iveness inhalation: 0 %)	
Dermal protection: Yes (Chemical) [Effectiveness dermal: 80%]	y resistant gloves conforming to EN374) and	(other) appropriate dermal protection
Other given operational conditio	ns affecting workers exposure	
Place of use: Indoor		
Operating temperature: <= 115 °C		
SECTION 3:	3.0 Exposure estimation	
3.1. Environment		
Contributing scenario controlling	g environmental exposure: Formulation or r	e-packaging (ERC2)
Release	Release estimation method	Explanations
Water	Estimated release rate	Local release rate: 5 kg/day
Air	Estimated release rate	Local release rate: 1 kg/day
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%
Protection target	Exposure concentration	Risk quantification (RCR)
Fresh water	Local PEC: 0.248 mg/l	0.49
Sedimentation (Fresh water)	Local PEC: 6.348 mg/kg dw	0.49
Marine water	Local PEC: 0.025 mg/l	0.50
Sedimentation (Marine water)	Local PEC: 0.652 mg/kg dw	0.50
Sewage Treatment Plant	Local PEC: 2.431 mg/l	0.02
Agricultural soil	Local PEC: 1.7 mg/kg dw	0.75
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 2.78E-4 mg/m ³	< 0.01



Man via Environment - Oral	Exposure via food consumption: 0.025 mg/kg bw/day	0.06
Man via Environment - Combined routes		0.06
3.2. Workers		
Contributing scenario controlling wo likelihood of exposure or processes wit		
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024
Dermal, Systemic effects, Long Term	1.37 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.176
Contributing scenario controlling we batch processes with occasional control		lation in the chemical industry in closed lent containment conditions (PROC3)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	0.69 mg/kg bw/day	0.058
Combined routes, Systemic effects, Long Term		0.179
Contributing scenario controlling wo (PROC4)	rker exposure: Chemical production	where opportunity for exposure arises
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.719
Contributing scenario controlling wo	rker exposure: Mixing or blending in	batch processes (Solid) (PROC5)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo non-dedicated facilities (Solid) (PROC		or mixture (charging and discharging) at



Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo dedicated facilities (Solid) (PROC8b)	rker exposure: Transfer of substan	ce or mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.353
Contributing scenario controlling wo filling line, including weighing) (PROC		ce or mixture into small containers (dedicated
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.719
Contributing scenario controlling wo (PROC14)	rker exposure: Tabletting, compres	ssion, extrusion, pelletisation, granulation
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	3.43 mg/kg bw/day	0.291
Combined routes, Systemic effects, Long Term		0.411
Contributing scenario controlling wo	rker exposure: Use as laboratory r	eagent (Solid) (PROC15)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024
Dermal, Systemic effects, Long Term	0.34 mg/kg bw/day	0.029
Combined routes, Systemic effects, Long Term		0.089

Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	3 mg/m ³	0.361
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	7.072 mg/kg bw/day	0.599
Combined routes, Systemic effects, Long Term		0.961
Contributing scenario controlling wo (PROC28)	rker exposure: Manual maintenar	nce (cleaning and repair) of machinery (Solid
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo	orker exposure: Mixing or blendin	g in batch processes (Liquid) (PROC5)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	2.743 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.296
Contributing scenario controlling wo dedicated facilities (Liquid) (PROC8b)	orker exposure: Transfer of substa	nce or mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	2.743 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.296
Contributing scenario controlling wo	orker exposure: Use as laboratory r	reagent (Liquid) (PROC15)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long	0.525 mg/m ³	0.063
Term Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01



Combined routes, Systemic effects, Long Term			0.092
Contributing scenar (PROC28)	rio controlling wo	rker exposure: Manual maintena	nce (cleaning and repair) of machinery (Liquid)
Route of exposure a effects	and type of	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic Term	effects, Long	0.525 mg/m ³	0.063
Inhalation, Systemic	effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic eff	fects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Sy Long Term	stemic effects,		0.296
Contributing scena (Liquid) (PROC19)	rio controlling wo	rker exposure: Hand-mixing with	n intimate contact and only PPE available
Route of exposure a effects	and type of	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic Term	effects, Long	1.74 mg/m ³	0.21
Inhalation, Systemic	effects, Acute	1.74 mg/m ³	0.021
Dermal, Systemic effects, Long Term		7.072 mg/kg bw/day	0.599
Combined routes, Systemic effects, Long Term			0.809
Contributing scenar non-dedicated facilit	rio controlling wo	rker exposure: Transfer of subst C8a)	ance or mixture (charging and discharging) at
Route of exposure a effects	and type of	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic Term	effects, Long	0.525 mg/m ³	0.063
Inhalation, Systemic	effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic eff	fects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Sy Long Term	stemic effects,		0.296
SECTION 4:	4.0 Guidance to	DU to evaluate whether he wor	ks inside the boundaries set by the ES
4.1. Health			
Where other Risk Ma managed to at least e		es/Operational Conditions are ado	pted, then users should ensure that risks are
4.2. Environment			
Guidance is based or	assumed operatin	g conditions which may not be app	plicable to all sites; thus, scaling could be

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.

Exposure Scenario 2: Use at industrial sites- Use as monomer (intermediate) for melamine based resins production

SECTION 1: 1.0 Title of Exposure Scenario:			
	Use at industrial sites- Use as monomer (intermediate) for melamine based resins production		
Contri	buting scenario controlli	ing environmental exposure	
CS1	Use as monomer (intermediate) for melamine based resins production ERC6a, ERC6c		
Contri	buting scenario controlli	ing worker exposure	
CS2		refinery in closed process without likelihood of exposure or ent containment conditions	PROC1
CS3		refinery in closed continuous process with occasional processes with equivalent containment conditions	PROC2
CS4		ation in the chemical industry in closed batch processes with sposure or processes with equivalent containment conditions	PROC3
CS5	Chemical production w	here opportunity for exposure arises	PROC4
CS6	Mixing or blending in b	patch processes	PROC5
CS7	Calendering operations PROC6		
CS8	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Solid) PROC8a		
CS9	Transfer of substance or mixture (charging and discharging) at dedicated facilities (Solid) PROC8b		
CS10	Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (Solid) PROC9		
CS11	Tabletting, compression, extrusion, pelletisation, granulation PROC14		PROC14
CS12	Use as laboratory reagent PROC15		PROC15
CS13	Manual maintenance (cleaning and repair) of machinery PROC28		PROC28
CS14	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Liquid) PROC8a		PROC8a
CS15	Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC8b (Liquid) PROC8b		PROC8b
CS16	Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (Liquid) PROC9		
SECTI	CTION 2: 2.0 Conditions of use		
2.1	.1 Contributing scenario controlling environmental exposure: 2.1 Use as monomer (intermediate) for melamine based resins production (ERC6a, ERC6c)		
Amoun	nt used, frequency and d	uration of use (or from service life)	
•	se amount at site: Not rele		
	use amount at site: Not re		
Condit	ions and measures relat	ed to biological sewage treatment plant	

Biological STP: Standard [Effec	tiveness water: 2.77%]	
Discharge rate of STP: >= 2E3 r	n3/day	
Application of the STP sludge of	n agricultural soil: Yes	
	tions affecting environmental exposure er flow: >= 1.8E4 m3/day	
2.2	Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produc	ct: Solid (medium dusty form)	
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	y .	
Technical conditions and meas	sures to control dispersion from source towards the worker	
General ventilation: Basic gener	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)	
Dermal protection: No. (Effective	eness dermal: 0 %)	
Other given operational conditional	tions affecting workers exposure	
Place of use: Indoor		
2.3	Contributing scenario controlling worker exposure exposure: 2.3 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produc	ct: Solid (medium dusty form)	
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	y .	
Technical conditions and meas	sures to control dispersion from source towards the worker	
General ventilation: Basic gener	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety Management System: Advanced		
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)	
Dermal protection: No. (Effective	veness dermal: 0 %)	
Other given operational conditional	tions affecting workers exposure	
Place of use: Indoor		



2.4	Contributing scenario controlling worker exposure exposure:2.4 Manufacture or formulation in the chemical industry in closed batch processes		
	with occasional controlled exposure or processes with equivalent containment conditions (PROC3)		
Product (article) characteristic	Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %		
Physical form of the used produc	ct: Solid (medium dusty form)		
Amount used, frequency and d	luration of use (or from service life)		
Duration of activity: <=8.0 h/day	1		
Technical conditions and meas	ures to control dispersion from source towards the worker		
General ventilation: Basic generation	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety	Management System: Advanced		
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures relat	ed to personal protection, hygiene and health evaluation		
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)		
Dermal protection: No. (Effectiv	reness dermal: 0 %)		
Other given operational condit	ions affecting workers exposure		
Place of use: Indoor			
2.5	Contributing scenario controlling worker exposure exposure:		
	2.5 Chemical production where opportunity for exposure arises (PROC4)		
Product (article) characteristic			
Percentage (w/w) of substance in	n mixture/article: <= 100 %		
Physical form of the used produc	ct: Solid (medium dusty form)		
Amount used, frequency and duration of use (or from service life)			
Duration of activity: <=8.0 h/day	/		
Technical conditions and measures to control dispersion from source towards the worker			
General ventilation: Basic generation	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety	Management System: Advanced		
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]			
Conditions and measures related to personal protection, hygiene and health evaluation			
Respiratory protection: No. (Effectiveness inhalation: 0 %)			
Dermal protection: Yes (Chemically resistant gloves conforming to EN374) and (other) appropriate dermal protection [Effectiveness dermal: 80%]			
Other given operational conditions affecting workers exposure			
Place of use: Indoor			
2.6	Contributing scenario controlling worker exposure exposure:		
	2.6 Mixing or blending in batch processes (PROC5)		
Product (article) characteristic			
Percentage (w/w) of substance in mixture/article: <= 100 %			



Physical form of the used produc	ct: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	/
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	tions affecting workers exposure
Place of use: Indoor	
2.7	Contributing scenario controlling worker exposure exposure: 2.7 Calendering operations (PROC6)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	et: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	/
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 90%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.8	Contributing scenario controlling worker exposure exposure: 2.8 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Solid) (PROC8a)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	et: Solid (medium dusty form)
Amount used, frequency and d	luration of use (or from service life)
Duration of activity: <=8.0 h/day	/
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)



Occupational Health and Safety	/ Management System: Advanced
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)
Dermal protection: Yes (Chemi [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational cond	itions affecting workers exposure
Place of use: Indoor	
2.9	Contributing scenario controlling worker exposure exposure:2.9 Transfer of substance or mixture (charging and discharging) at dedicated facilities(Solid) (PROC8b)
Product (article) characterist	ic
Percentage (w/w) of substance	in mixture/article: <= 100 %
Physical form of the used produ	act: Solid (medium dusty form)
Amount used, frequency and	duration of use (or from service life)
Duration of activity: <=8.0 h/da	ау
Technical conditions and mea	sures to control dispersion from source towards the worker
General ventilation: Basic gene	ral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)
Dermal protection: Yes (Chemi [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational cond	itions affecting workers exposure
Place of use: Indoor	
2.10	Contributing scenario controlling worker exposure exposure: 2.10 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (Solid) (PROC9)
Product (article) characterist	ic
Percentage (w/w) of substance	in mixture/article: <= 100 %
Physical form of the used produ	act: Solid (medium dusty form)
Amount used, frequency and	duration of use (or from service life)
Duration of activity: <=8.0 h/da	ıy
Technical conditions and mea	sures to control dispersion from source towards the worker
General ventilation: Basic gene	ral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rela	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)



Other given operation	al conditions affecting workers exposure
Place of use: Indoor	
2.11	Contributing scenario controlling worker exposure exposure:
	2.11 Tabletting, compression, extrusion, pelletisation, granulation (PROC14)
Product (article) chara	acteristic
Percentage (w/w) of sub	bstance in mixture/article: <= 100 %
Physical form of the use	ed product: Solid (medium dusty form)
Amount used, frequen	ncy and duration of use (or from service life)
Duration of activity: <=	-8.0 h/day
Technical conditions a	and measures to control dispersion from source towards the worker
General ventilation: Bas	sic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health an	d Safety Management System: Advanced
Local exhaust ventilation	on: No [Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measu	res related to personal protection, hygiene and health evaluation
Respiratory protection:	No. (Effectiveness inhalation: 0 %)
Dermal protection: No.	(Effectiveness dermal: 0 %)
Other given operation	al conditions affecting workers exposure
Place of use: Indoor	
2.12	Contributing scenario controlling worker exposure exposure:
	2.12 Use as laboratory reagent (PROC15)
Product (article) chara	acteristic
Percentage (w/w) of sub	bstance in mixture/article: <= 100 %
Physical form of the use	ed product: Solid (medium dusty form)
Amount used, frequen	ncy and duration of use (or from service life)
Duration of activity: <=	-8.0 h/day
Technical conditions a	and measures to control dispersion from source towards the worker
General ventilation: Bas	sic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health an	d Safety Management System: Advanced
Local exhaust ventilation	on: No [Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measu	res related to personal protection, hygiene and health evaluation
Respiratory protection:	No. (Effectiveness inhalation: 0 %)
Dermal protection: No.	(Effectiveness dermal: 0 %)
Other given operation	al conditions affecting workers exposure
Place of use: Indoor	
Flace of use. Indoor	
2.13	Contributing scenario controlling worker exposure exposure:

Percentage (w/w) of substance ir	n mixture/article: <- 100 %	
Physical form of the used produc		
Amount used, frequency and duration of use (or from service life)		
Duration of activity: <=8.0 h/day		
	ures to control dispersion from source towards the worker	
-	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety		
	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational condit	ions affecting workers exposure	
Place of use: Indoor		
2.14	Contributing scenario controlling worker exposure exposure:	
	2.14 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Liquid) (PROC8a)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 10 %	
Physical form of the used produc	et: Liquid	
Amount used, frequency and d	uration of use (or from service life)	
Duration of activity: <=8.0 h/day	I	
Technical conditions and meas	ures to control dispersion from source towards the worker	
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)	
Dermal protection: No. (Effective	eness dermal: 0 %)	
Other given operational condit	ions affecting workers exposure	
Place of use: Indoor		
Operating temperature: <= 115 °C		
2.15	Contributing scenario controlling worker exposure exposure: 2.15 Transfer of substance or mixture (charging and discharging) at dedicated facilities (Liquid) (PROC8b)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 10 %	
Physical form of the used produc	et: Liquid	
Amount used, frequency and d	uration of use (or from service life)	
, 1		



Duration of activity: <=8.0 h/day		
Technical conditions and measur	es to control dispersion from source to	wards the worker
General ventilation: Basic general	ventilation (1-3 air changes per hour) (Eff	fectiveness inhalation: 0 %)
Occupational Health and Safety Ma	anagement System: Advanced	
Local exhaust ventilation: No [Effe	ectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures related	to personal protection, hygiene and he	alth evaluation
Respiratory protection: No. (Effect	iveness inhalation: 0 %)	
Dermal protection: No. (Effectiven	ess dermal: 0 %)	
Other given operational condition	ns affecting workers exposure	
Place of use: Indoor		
Operating temperature: <= 115 °C		
2	Contributing scenario controlling work 2.16 Transfer of substance or mixture into ncluding weighing) (Liquid) (PROC9)	
Product (article) characteristic		
Percentage (w/w) of substance in n	nixture/article: <= 10 %	
Physical form of the used product:	Liquid	
Amount used, frequency and dur	ration of use (or from service life)	
Duration of activity: <=8.0 h/day		
Technical conditions and measur	es to control dispersion from source to	wards the worker
General ventilation: Basic general	ventilation (1-3 air changes per hour) (Eff	fectiveness inhalation: 0 %)
Occupational Health and Safety Ma	anagement System: Advanced	
Local exhaust ventilation: No [Effe	ectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures related	to personal protection, hygiene and he	alth evaluation
Respiratory protection: No. (Effect	iveness inhalation: 0 %)	
Dermal protection: No. (Effectiven	ess dermal: 0 %)	
Other given operational condition	ns affecting workers exposure	
Place of use: Indoor		
Operating temperature: <= 115 °C		
SECTION 3:	3.0 Exposure estimation	
3.1. Environment		
Contributing scenario controlling resins production (ERC6a, ERC6c)	g environmental exposure: Use as mono	mer (intermediate) for melamine based
Release	Release estimation method	Explanations
Water	Estimated release rate	Local release rate: 3 kg/day
Air	Estimated release rate	Local release rate: 0.5 kg/day
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%
Protection target	Exposure concentration	Risk quantification (RCR)



Fresh water	Local PEC: 0.151 mg/l	0.30
Sedimentation (Fresh water)	Local PEC: 3.86 mg/kg dw	0.30
Marine water	Local PEC: 0.015 mg/l	0.29
Sedimentation (Marine water)	Local PEC: 0.396 mg/kg dw	0.30
Sewage Treatment Plant	Local PEC: 1.458 mg/l	0.02
Agricultural soil	Local PEC: 1.014 mg/kg dw	0.44
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.39E-4 mg/m ³	< 0.01
Man via Environment - Oral	Exposure via food consumption: 0.014 mg/kg bw/day	0.03
Man via Environment - Combined routes		0.03
3.2. Workers		
	rker exposure: Chemical production or h equivalent containment conditions (PR	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.01 mg/m ³	<0.01
Inhalation, Systemic effects, Acute	0.04 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	0.034 mg/kg bw/day	<0.01
Combined routes, Systemic effects, Long Term		<0.01
Contributing scenario controlling wo with occasional controlled exposure or	rker exposure: Chemical production or processes with equivalent containment co	refinery in closed continuous process onditions (PROC2)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024
Dermal, Systemic effects, Long Term	1.37 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.176
	orker exposure: Manufacture or formula led exposure or processes with equivaler	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	0.69 mg/kg bw/day	0.058
Combined routes, Systemic effects, Long Term		0.179
Contributing scenario controlling wo (PROC4)	rker exposure: Chemical production w	here opportunity for exposure arises



Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.719
Contributing scenario controlling wo	rker exposure: Mixing or blending in ba	atch processes (PROC5)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo	rker exposure: Calendering operations	(PROC6)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.743 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo non-dedicated facilities (Solid) (PROC8	rker exposure: Transfer of substance or a)	mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo dedicated facilities (Solid) (PROC8b)	rker exposure: Transfer of substance or	mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.353



Contributing scenario controlling wo filling line, including weighing) (Solid)		nce or mixture into small containers (dedicated
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.719
Contributing scenario controlling wo (PROC14)	rker exposure: Tabletting, compression	ession, extrusion, pelletisation, granulation
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	3.43 mg/kg bw/day	0.291
Combined routes, Systemic effects, Long Term		0.411
Contributing scenario controlling wo	orker exposure: Use as laboratory r	reagent (PROC15)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024
Dermal, Systemic effects, Long Term	0.34 mg/kg bw/day	0.029
Combined routes, Systemic effects, Long Term		0.089
Contributing scenario controlling wo (PROC28)	rker exposure: Manual maintenan	ce (cleaning and repair) of machinery
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling we non-dedicated facilities (Liquid) (PRO		nce or mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.315 mg/m ³	0.038
Inhalation, Systemic effects, Acute	0.315 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	8.226 mg/kg bw/day	0.697



Combined routes, Systemic effects, Long Term		0.735	
Contributing scenario controlling wo dedicated facilities (Liquid) (PROC8b)	rker exposure: Transfer of substanc	e or mixture (charging and discharging) at	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	0.315 mg/m ³	0.038	
Inhalation, Systemic effects, Acute	0.315 mg/m ³	<0.01	
Dermal, Systemic effects, Long Term	8.226 mg/kg bw/day	0.697	
Combined routes, Systemic effects, Long Term		0.735	
Contributing scenario controlling wo filling line, including weighing) (Liquid		e or mixture into small containers (dedicated	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	0.315 mg/m ³	0.038	
Inhalation, Systemic effects, Acute	0.315 mg/m ³	<0.01	
Dermal, Systemic effects, Long Term	4.114 mg/kg bw/day	0.349	
Combined routes, Systemic effects, Long Term		0.387	
SECTION 4: 4.0 Guidance to	SECTION 4: 4.0 Guidance to DU to evaluate whether he works inside the boundaries set by the ES		
4.1. Health			
Where other Risk Management Measur managed to at least equivalent levels.	es/Operational Conditions are adopte	ed, then users should ensure that risks are	
4.2. Environment			
Guidance is based on assumed operatin	g conditions which may not be appli	cable to all sites; thus, scaling could be	

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.

SECTION 1:		1.0 Title of Exposure Scenario:	
Use at industrial sites- Use as monomer (intermediate) in melamine based re- before curing		elamine based resins	
Contri	Contributing scenario controlling environmental exposure		
CS1	Use as monomer (intermediate) in melamine based resins before curing ERC6c		ERC6c
Contri	Contributing scenario controlling worker exposure		
CS2	Industrial spraying PH		PROC7
CS3	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Liquid)		PROC8a
CS4	4 Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC8b (Liquid)		PROC8b

Exposure Scenario 3: Use at industrial sites- Use as monomer (intermediate) in melamine based resins before curing



CS5	Roller application or brushing		PROC10
CS6	Hand-mixing with intimate contact and only PPE available		PROC19
CS7	Manual maintenance (cleaning and repair) of machinery PRC		PROC28
CS8	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Solid) PROC8a		PROC8a
CS9	Transfer of substance of (Solid)	r mixture (charging and discharging) at dedicated facilities	PROC8b
CS10	Calendering operations		PROC6
SECTI	ON 2:	2.0 Conditions of use	
2.1		Contributing scenario controlling environmental expose 2.1 Use as monomer (intermediate) in melamine based resi	
Amoun	nt used, frequency and d	luration of use (or from service life)	
Daily u	se amount at site: Not rel	evant for this material.	
Annual	use amount at site: Not r	elevant for this material.	
Condit	ions and measures relat	ed to biological sewage treatment plant	
Biologi	cal STP: Standard [Effec	tiveness water: 2.77%]	
Dischar	rge rate of STP: >= 2E3 r	n3/day	
Applica	ation of the STP sludge or	n agricultural soil: Yes	
Other §		tions affecting environmental exposure er flow: >= 1.8E4 m3/day	
2.2	Contributing scenario controlling worker exposure exposure:		
	2.2 Industrial spraying (PROC7)		
Produc	et (article) characteristic		
Percent	age (w/w) of substance ir	n mixture/article: <= 10 %	
	l form of the used produc	*	
		uration of use (or from service life)	
	on of activity: <=8.0 h/day		
		sures to control dispersion from source towards the worke	r
Ventila	tion working room: Gene	ral ventilation (mechanical)	
Occupa	tional Health and Safety	Management System: Advanced	
Local e	xhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Condit	ions and measures relat	ed to personal protection, hygiene and health evaluation	
Respira	tory protection: No. (Effe	ectiveness inhalation: 0 %)	
	Dermal protection: Yes (Chemically resistant gloves conforming to EN374) and (other) appropriate dermal protection [Effectiveness dermal: 80%]		
Other g	Other given operational conditions affecting workers exposure		
Place of	f use: Indoor		
Operati	ng temperature: <= 115 °	С	
2.3	Contributing scenario controlling worker exposure exposure: 2.3 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Liquid) (PROC8a)		



Product	(article)) characteristic
IIVuuce	ai ticic,	/ characteristic

Percentage (w/w) of substance in mixture/article: <= 10 %

Physical form of the used product: Liquid

Amount used, frequency and duration of use (or from service life)

Duration of activity: <=8.0 h/day

Technical conditions and measures to control dispersion from source towards the worker

General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)

Occupational Health and Safety Management System: Advanced

Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection: No. (Effectiveness inhalation: 0 %)

Dermal protection: No. (Effectiveness dermal: 0 %)

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 115 °C

Operating temperature. <= 115 C		
2.4	Contributing scenario controlling worker exposure exposure: 2.4 Transfer of substance or mixture (charging and discharging) at dedicated facilities (Liquid) (PROC8b)	
Product (article) char	acteristic	
Percentage (w/w) of su	ubstance in mixture/article: <= 10 %	
Physical form of the us	sed product: Liquid	
Amount used, freque	ncy and duration of use (or from service life)	
Duration of activity: <=	=8.0 h/day	
Technical conditions	and measures to control dispersion from source towards the worker	
General ventilation: Ge	eneral ventilation (mechanical)	
Occupational Health and	nd Safety Management System: Advanced	
Local exhaust ventilati	on: No [Effectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measured	ures related to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Effectiveness inhalation: 0 %)		
Dermal protection: No. (Effectiveness dermal: 0 %)		
Other given operational conditions affecting workers exposure		
Place of use: Indoor		
Operating temperature: <= 120 °C		
2.5	Contributing scenario controlling worker exposure exposure: 2.5 Roller application or brushing (PROC10)	
Product (article) char	acteristic	
Percentage (w/w) of substance in mixture/article: <= 10 %		
Physical form of the used product: Liquid		

Amount used, frequency and d	uration of use (or from service life)	
Duration of activity: <=8.0 h/day	7	
Technical conditions and meas	ures to control dispersion from source towards the worker	
Ventilation working room: Gene	ral ventilation (mechanical)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational condit	ions affecting workers exposure	
Place of use: Indoor		
Operating temperature: <= 115 °	С	
2.6	Contributing scenario controlling worker exposure exposure: 2.6 Hand-mixing with intimate contact and only PPE available (PROC19)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 10 %	
Physical form of the used produc	et: Liquid	
Amount used, frequency and d	uration of use (or from service life)	
Duration of activity: <=8.0 h/day	1	
Technical conditions and meas	ures to control dispersion from source towards the worker	
Ventilation working room: Gene	ral ventilation (mechanical)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemic [Effectiveness dermal: 90%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational condit	ions affecting workers exposure	
Place of use: Indoor		
Operating temperature: <= 115 °	C	
2.7 Contributing scenario controlling worker exposure exposure: 2.7 Manual maintenance (cleaning and repair) of machinery (PROC28)		
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 10 %	
Physical form of the used product: Liquid		
Amount used, frequency and duration of use (or from service life)		
Duration of activity: <=8.0 h/day		
Technical conditions and measures to control dispersion from source towards the worker		



General ventilation: Basic genera	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety Management System: Advanced			
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]			
Conditions and measures related to personal protection, hygiene and health evaluation			
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)		
Dermal protection: No. (Effectiv	eness dermal: 0 %)		
Other given operational condit	ions affecting workers exposure		
Place of use: Indoor			
Operating temperature: <= 115 °	С		
2.8	Contributing scenario controlling worker exposure exposure: 2.8 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Solid) (PROC8a)		
Product (article) characteristic			
Percentage (w/w) of substance in	n mixture/article: <= 10 %		
Physical form of the used produc	t: Solid (medium dusty form)		
Amount used, frequency and d	uration of use (or from service life)		
Duration of activity: <=8.0 h/day	,		
Technical conditions and meas	ures to control dispersion from source towards the worker		
General ventilation: Basic genera	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety	Management System: Advanced		
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures related	ed to personal protection, hygiene and health evaluation		
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)		
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection		
Other given operational condit	ions affecting workers exposure		
Place of use: Indoor			
2.9	Contributing scenario controlling worker exposure exposure:		
	2.9 Transfer of substance or mixture (charging and discharging) at dedicated facilities (Solid) (PROC8b)		
Product (article) characteristic			
Percentage (w/w) of substance in	n mixture/article: <= 10 %		
Physical form of the used product: Solid (medium dusty form)			
Amount used, frequency and duration of use (or from service life)			
Duration of activity: <=8.0 h/day			
Technical conditions and measures to control dispersion from source towards the worker			
General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)			
Occupational Health and Safety Management System: Advanced			
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]			



Conditions and measures related to personal protection, hygiene and health evaluation			
Respiratory protection: No. (Effective	eness inhalation: 0 %)		
Dermal protection: No. (Effectivenes	ss dermal: 0 %)		
Other given operational conditions	affecting workers exposure		
Place of use: Indoor			
	ntributing scenario controlling worke	er exposure exposure:	
	0 Calendering operations (PROC6)		
Product (article) characteristic			
Percentage (w/w) of substance in mix	xture/article: <= 10 %		
Physical form of the used product: L	iquid		
Amount used, frequency and dura	tion of use (or from service life)		
Duration of activity: <=8.0 h/day			
Technical conditions and measures	s to control dispersion from source to	wards the worker	
General ventilation: Basic general ve	ntilation (1-3 air changes per hour) (Eff	ectiveness inhalation: 0 %)	
Occupational Health and Safety Man			
Local exhaust ventilation: No [Effect	tiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures related to	o personal protection, hygiene and hea	alth evaluation	
Respiratory protection: No. (Effective	eness inhalation: 0 %)		
Dermal protection: Yes (Chemically [Effectiveness dermal: 80%]	resistant gloves conforming to EN374)	and (other) appropriate dermal protection	
Other given operational conditions	affecting workers exposure		
Place of use: Indoor			
Operating temperature: <= 115 °C			
SECTION 3:	3.0 Exposure estimation		
3.1. Environment			
Contributing scenario controlling resins before curing (ERC6c)	environmental exposure: Use as mono	mer (intermediate) in melamine based	
Release	Release estimation method	Explanations	
Water	Estimated release rate	Local release rate: 0.5 kg/day	
Air	Estimated release rate	Local release rate: 0 kg/day	
Non-Agricultural Soil			
Protection target Exposure concentration Risk quantification (RCR)		Risk quantification (RCR)	
Fresh water	Local PEC: 0.029 mg/l	0.06	
Sedimentation (Fresh water)	Local PEC: 0.75 mg/kg dw	0.06	
Marine water Local PEC: 2.98E-3 mg/l 0.06			
Sedimentation (Marine water) Local PEC: 0.076 mg/kg dw 0.06			
Sewage Treatment Plant	Local PEC: 0.243 mg/l	<0.01	
	-		



Man via Environment - Inhalation (Systemic effects)	Concentration in air: 9.38E-16 mg/m ³	< 0.01
Man via Environment - Oral	Exposure via food consumption: 1.65 E-3 mg/kg bw/day	< 0.01
Man via Environment - Combined routes		< 0.01
3.2. Workers		
Contributing scenario controlling wo	rker exposure: Industrial spraying (PRO	DC7)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	3.85 mg/m ³	0.464
Inhalation, Systemic effects, Acute	3.85 mg/m ³	0.05
Dermal, Systemic effects, Long Term	5.143 mg/kg bw/day	0.436
Combined routes, Systemic effects, Long Term		0.9
Contributing scenario controlling wo non-dedicated facilities (Liquid) (PROC	rker exposure: Transfer of substance or C8a)	mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.315 mg/m ³	0.038
Inhalation, Systemic effects, Acute	0.315 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	8.226 mg/kg bw/day	0.697
Combined routes, Systemic effects, Long Term		0.735
Contributing scenario controlling wo dedicated facilities (Liquid) (PROC8b)	rker exposure: Transfer of substance or a	mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.38 mg/m ³	0.046
Inhalation, Systemic effects, Acute	0.38 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	8.226 mg/kg bw/day	0.697
Combined routes, Systemic effects, Long Term		0.743
Contributing scenario controlling wo	rker exposure: Roller application or bru	ushing (PROC10)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1.74 mg/m ³	0.210
Inhalation, Systemic effects, Acute	1.74 mg/m ³	0.021
Dermal, Systemic effects, Long Term	3.29 mg/kg bw/day	0.279
Combined routes, Systemic effects, Long Term		0.489
Contributing scenario controlling wo (PROC19)	rker exposure: Hand-mixing with intim	ate contact and only PPE available



Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.84 mg/m ³	0.101
Inhalation, Systemic effects, Acute	0.84 mg/m ³	0.01
Dermal, Systemic effects, Long Term	8.486 mg/kg bw/day	0.719
Combined routes, Systemic effects, Long Term		0.820
Contributing scenario controlling wo (PROC28)	rker exposure: Manual maintenance (cl	leaning and repair) of machinery
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.315 mg/m ³	0.038
Inhalation, Systemic effects, Acute	0.315 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	8.226 mg/kg bw/day	0.697
Combined routes, Systemic effects, Long Term		0.735
Contributing scenario controlling wo non-dedicated facilities (Solid) (PROC8	rker exposure: Transfer of substance or a)	mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	3 mg/m ³	0.361
Inhalation, Systemic effects, Acute	12 mg/m ³	0.146
Dermal, Systemic effects, Long Term	1.645 mg/kg bw/day	0.139
Combined routes, Systemic effects, Long Term		0.500
Contributing scenario controlling wo dedicated facilities (Solid) (PROC8b)	rker exposure: Transfer of substance or	mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.6 mg/m ³	0.072
Inhalation, Systemic effects, Acute	2.4 mg/m ³	0.029
Dermal, Systemic effects, Long Term	8.226 mg/kg bw/day	0.697
Combined routes, Systemic effects, Long Term		0.769
Contributing scenario controlling wo	rker exposure: Calendering operations (PROC6)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.315 mg/m ³	0.038
Inhalation, Systemic effects, Acute	0.315 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	3.291 mg/kg bw/day	0.279
Combined routes, Systemic effects, Long Term		0.317



SECTION 4:	SECTION 4: 4.0 Guidance to DU to evaluate whether he works inside the boundaries set by the ES		
4.1. Health			
	Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.		
4.2. Environment			

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.

Exposure Scenario 4: Use at industrial sites - Use as intermediate for the production of other substances e.g. melamine salt (reacted melamine)

SECTION 1: 1.0		1.0 Title of Exposure Scenario:	
Use at industrial sites - Use as intermediate for the production of other substant melamine salt (reacted melamine)		n of other substances e.g.	
Contril	buting scenario controll	ing environmental exposure	
CS1	Use as intermediate for (reacted melamine)	the production of other substances e.g. melamine salt	ERC6a
Contril	buting scenario controll	ing worker exposure	
CS2		refinery in closed process without likelihood of exposure or ent containment conditions	PROC1
CS3		refinery in closed continuous process with occasional processes with equivalent containment conditions	PROC2
CS4	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions PROC3		
CS5	Chemical production where opportunity for exposure arises PRC		PROC4
CS6	Mixing or blending in batch processes PRO		PROC5
CS7	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities		PROC8a
CS8	Transfer of substance or mixture (charging and discharging) at dedicated facilities		PROC8b
CS9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)		PROC9
CS10	Use as laboratory reagent		PROC15
CS11	Manual maintenance (cleaning and repair) of machinery PROC28		PROC28
SECTI	SECTION 2: 2.0 Conditions of use		
		Contributing scenario controlling environmental exposur 2.1 Use as intermediate for the production of other substance (reacted melamine) (ERC6a)	
Amount used, frequency and duration of use (or from service life)			
Daily use amount at site: Not relevant for this material.			
Annual use amount at site: Not relevant for this material.			



Conditions and measures relat	ed to biological sewage treatment plant	
Biological STP: Standard [Effec		
Discharge rate of STP: >= 2E3 m3/day		
Application of the STP sludge on agricultural soil: Yes		
	tions affecting environmental exposure	
	the flow: $>= 1.8E4 \text{ m}^3/day$	
2.2	Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produce	ct: Solid (medium dusty form)	
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	у	
Technical conditions and meas	sures to control dispersion from source towards the worker	
General ventilation: Basic gener	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)	
Dermal protection: No. (Effective	reness dermal: 0 %)	
Other given operational conditional	tions affecting workers exposure	
Place of use: Indoor		
2.3	Contributing scenario controlling worker exposure exposure: 2.3 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produc	ct: Solid (medium dusty form)	
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	y .	
Technical conditions and meas	sures to control dispersion from source towards the worker	
General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety Management System: Advanced		
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)	
Dermal protection: No. (Effectiv	veness dermal: 0 %)	
Other given operational conditional conditiona	tions affecting workers exposure	



Place of use: Indoor					
2.4	Contributing scenario controlling worker exposure exposure:				
2.4 Manufacture or formulation in the chemical industry in closed batch processes we occasional controlled exposure or processes with equivalent containment conditions (PROC3)					
Product (article) characterist					
Percentage (w/w) of substance	in mixture/article: <= 100 %				
Physical form of the used prod	uct: Solid (medium dusty form)				
Amount used, frequency and	duration of use (or from service life)				
Duration of activity: <=8.0 h/d	ay				
Technical conditions and me	asures to control dispersion from source towards the worker				
General ventilation: Basic gene	eral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)				
Occupational Health and Safet	y Management System: Advanced				
Local exhaust ventilation: No	[Effectiveness inhalation: 0%, Dermal: 0%]				
Conditions and measures rela	ated to personal protection, hygiene and health evaluation				
Respiratory protection: No. (E	ffectiveness inhalation: 0 %)				
Dermal protection: No. (Effect	iveness dermal: 0 %)				
Other given operational cond	litions affecting workers exposure				
Place of use: Indoor					
2.5	Contributing scenario controlling worker exposure exposure:				
	2.5 Chemical production where opportunity for exposure arises (PROC4)				
Product (article) characterist	ic				
Percentage (w/w) of substance	in mixture/article: <= 100 %				
Physical form of the used prod	uct: Solid (medium dusty form)				
Amount used, frequency and	duration of use (or from service life)				
Duration of activity: <=8.0 h/d	ay				
Technical conditions and me	asures to control dispersion from source towards the worker				
General ventilation: Basic gene	eral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)				
Occupational Health and Safet	y Management System: Advanced				
Local exhaust ventilation: No	[Effectiveness inhalation: 0%, Dermal: 0%]				
Conditions and measures rela	ated to personal protection, hygiene and health evaluation				
Respiratory protection: No. (E	ffectiveness inhalation: 0 %)				
Dermal protection: Yes (Chem [Effectiveness dermal: 80%]	ically resistant gloves conforming to EN374) and (other) appropriate dermal protection				
Other given operational cond	litions affecting workers exposure				
Place of use: Indoor					
2.6	Contributing scenario controlling worker exposure exposure:				
2.6 Mixing or blending in batch processes (PROC5)					
Product (article) characterist	ic				

Percentage (w/w) of substance in	
Physical form of the used produc	ct: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	7
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic genera	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.7	Contributing scenario controlling worker exposure exposure:
	2.7 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	ct: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	7
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic genera	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.8	Contributing scenario controlling worker exposure exposure: 2.8 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	ct: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	7



Technical conditions and me	easures to control dispersion from source towards the worker
General ventilation: Basic gen	heral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safe	ty Management System: Advanced
Local exhaust ventilation: No	[Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rel	lated to personal protection, hygiene and health evaluation
Respiratory protection: No. (E	Effectiveness inhalation: 0 %)
Dermal protection: Yes (Chen [Effectiveness dermal: 80%]	nically resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational con	ditions affecting workers exposure
Place of use: Indoor	
2.9	Contributing scenario controlling worker exposure exposure:
	2.9 Transfer of substance or mixture into small containers (dedicated filling line,
	including weighing) (PROC9)
Product (article) characteris	tic
Percentage (w/w) of substance	e in mixture/article: <= 100 %
Physical form of the used proc	duct: Solid (medium dusty form)
Amount used, frequency and	d duration of use (or from service life)
Duration of activity: <=8.0 h/c	łay
Technical conditions and me	easures to control dispersion from source towards the worker
General ventilation: Basic gen	neral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safe	ty Management System: Advanced
Local exhaust ventilation: No	[Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures rel	lated to personal protection, hygiene and health evaluation
Respiratory protection: No. (E	Effectiveness inhalation: 0 %)
Dermal protection: Yes (Chen [Effectiveness dermal: 80%]	nically resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational con	ditions affecting workers exposure
Place of use: Indoor	
2.10	Contributing scenario controlling worker exposure exposure:
	2.10 Use as laboratory reagent (PROC15)
Product (article) characteris	tic
Percentage (w/w) of substance	e in mixture/article: <= 100 %
Physical form of the used proc	duct: Solid (medium dusty form)
Amount used, frequency and	d duration of use (or from service life)
Duration of activity: <=8.0 h/c	łay
Technical conditions and me	easures to control dispersion from source towards the worker
General ventilation: Basic gen	neral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safe	ty Management System: Advanced
Local exhaust ventilation: No	[Effectiveness inhalation: 0%, Dermal: 0%]



Respiratory protection: No. (Effect	tiveness inhalation: 0 %)	
Dermal protection: No. (Effective	ness dermal: 0 %)	
Other given operational condition	ons affecting workers exposure	
Place of use: Indoor		
	Contributing scenario controlling worker exposure exposure: 2.11 Manual maintenance (cleaning and repair) of machinery (PROC28)	
Product (article) characteristic		
Percentage (w/w) of substance in a	nixture/article: <= 100 %	
Physical form of the used product:	Solid (medium dusty form)	
Amount used, frequency and du	ration of use (or from service life)	
Duration of activity: <=8.0 h/day		
Technical conditions and measu	res to control dispersion from source towar	ds the worker
General ventilation: Basic general	ventilation (1-3 air changes per hour) (Effecti	veness inhalation: 0 %)
Occupational Health and Safety M	anagement System: Advanced	
Local exhaust ventilation: No [Eff	ectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures related	l to personal protection, hygiene and health	evaluation
Respiratory protection: No. (Effect	tiveness inhalation: 0 %)	
Dermal protection: Yes (Chemical [Effectiveness dermal: 80%]	ly resistant gloves conforming to EN374) and	(other) appropriate dermal protection
Other given operational condition	ons affecting workers exposure	
Place of use: Indoor		
SECTION 3:	3.0 Exposure estimation	
3.1. Environment		
Contributing scenario controllin substances e.g. melamine salt (rea	g environmental exposure: Use as intermed cted melamine) (ERC6a)	iate for the production of other
Release	Release estimation method	Explanations
Water	Estimated release rate	Local release rate: 3 kg/day
Air	Estimated release rate	Local release rate: 0.5 kg/day
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%
Protection target	Exposure concentration	Risk quantification (RCR)
Fresh water	Local PEC: 0.151 mg/l	0.30
Sedimentation (Fresh water)	Local PEC: 3.86 mg/kg dw	0.30
Marine water	Local PEC: 0.015 mg/l	0.29
Sedimentation (Marine water)	Local PEC: 0.396 mg/kg dw	0.30
Sewage Treatment Plant	Local PEC: 1.458 mg/l	0.02
Agricultural soil	Local PEC: 1.014 mg/kg dw	0.44
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.39E-4 mg/m ³	< 0.01



Man via Environment - Oral	Exposure via food consumption: 0.014 mg/kg bw/day	0.03
Man via Environment - Combined routes		0.03
3.2. Workers		
Contributing scenario controlling wo likelihood of exposure or processes wit		
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.01 mg/m ³	<0.01
Inhalation, Systemic effects, Acute	0.04 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	0.034 mg/kg bw/day	<0.01
Combined routes, Systemic effects, Long Term		<0.01
Contributing scenario controlling wo with occasional controlled exposure or		
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024
Dermal, Systemic effects, Long Term	1.37 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.176
Contributing scenario controlling wo batch processes with occasional controll		
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	0.69 mg/kg bw/day	0.058
Combined routes, Systemic effects, Long Term		0.179
Contributing scenario controlling wo (PROC4)	rker exposure: Chemical production	where opportunity for exposure arises
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.719
Contributing scenario controlling wo	rker exposure: Mixing or blending in	batch processes (PROC5)



Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo non-dedicated facilities (PROC8a)	rker exposure: Transfer of substance	or mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo dedicated facilities (PROC8b)	rker exposure: Transfer of substance of	r mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.353
Contributing scenario controlling wo filling line, including weighing) (PROC		r mixture into small containers (dedicated
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.719
Contributing scenario controlling wo	rker exposure: Use as laboratory reagen	it (PROC15)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024
Dermal, Systemic effects, Long Term	0.34 mg/kg bw/day	0.029
Combined routes, Systemic effects, Long Term		0.089

Contributing scenar (PROC28)	rio controlling wo	rker exposure: Manual maintena	nce (cleaning and repair) of machinery
Route of exposure a effects	and type of	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic Term	effects, Long	5 mg/m ³	0.602
Inhalation, Systemic	effects, Acute	20 mg/m ³	0.243
Dermal, Systemic eff	fects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Sy Long Term	stemic effects,		0.835
SECTION 4:	4.0 Guidance to DU to evaluate whether he works inside the boundaries set by the ES		
4.1. Health			
Where other Risk Ma managed to at least e	U	es/Operational Conditions are adop	pted, then users should ensure that risks are

4.2. Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.

Exposure Scenario 5: Use at industrial sites - Use as additive in foams

SECTI	CTION 1: 1.0 Title of Exposure Scenario:		
Use at industrial sites - Use as additive in foams			
Contril	buting scenario controll	ing environmental exposure	
CS1	Use as additive in foam	IS	ERC5
Contril	Contributing scenario controlling worker exposure		
CS2	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC1		PROC1
CS3	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC2		PROC2
CS4	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions		PROC3
CS5	Chemical production where opportunity for exposure arises		PROC4



CS6Mixing on blond minig interprocessionPROC5R3Transfer of substance interprocession and discharging) at non-dedicated filling interprocession and discharging) at dedicated facilitiesPROC8CS80Transfer of substance interprocession and discharging) at dedicated facilitiesPROC9CS10Mixer interprocession and discharging) at dedicated facilitiesPROC9CS11Mixer interprocession and discharging) at dedicated facilitiesPROC9CS12Mixer interprocession and discharging) at dedicated facilitiesPROC9CS12Conditionare methodPROC9CS12Conditionare methodPROC9<	001			
facilities Facilities Facilities CS8 Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC8b CS9 Transfer of substance or mixture into small containers (dedicated facilities PROC9 CS10 Use as laboratory reagent PROC15 CS11 Hand-mixing with intimate cate and only PPE available PROC19 CS12 Manual maintenance (clearing and repair) of machinery PROC28 SECTON 2: 2.0 Conditions of use Controlling environmental exposure: 2.1 Use as additive in foams (ERC5) Amount used, frequency and duration of use (or from service life) Conditions and measures: related to biological sevage treatment plant Conditions and measures: related to biological sevage treatment plant Conditions of use Contributing scenario controlling worker exposure Contributing scenario controlling vorker exposure exposure: 2.2 Contributing scenario controlling worker exposure exposure: 2.2 Contributing scenario controlling worker exposure exposure: CS0 Product (article) characteristic Contributing scenario controlling worker exposure exposure: 2.2 Contributing scenario controlling worker exposure exposure: CS0 Product (article) characteristic Control on of use (or from service life) Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or process suital conditions and	CS6	Mixing or blending in batch processes PROC5		
CS9 Transfer of substance or mixture into small containers (dedicated filling line, including weighting) PROC9 CS10 Use as laboratory reagent PROC15 CS11 Manual maintenance (cleaning and repair) of machinery PROC28 SECTION 2: 2.0 Conditions of use PROC29 2.1 Contributing scenario controlling environmental exposure: 2.1 Use as additive in foams (ERC5) PROC29 Amount used, frequency and duration of use (or from service life) Daily use amount at site: Not relevant for this material. Conditions and measures related to biological sewage treatment plant Biological STP: Standard [Effectiveness water: 2.77%] Discharge rate of STP: >= 213 m3/day Application of the STP sludge on agricultural soil: Yes Other given operational conditions affecting environmental exposure • Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure or processes with equivalent containents (CRC1) Product (article) characteristic Precentage (w/w) of substance in mixture/article: <= 100 %	CS7			PROC8a
including weighing) PROC15 CS10 Use as laboratory reagent PROC15 CS11 Hand-mixing with initimate context and only PPE available PROC19 CS12 Manual maintenance (<lambda machinery)<="" of="" only="" td=""> PROC28 SECTION 2: 2.0 Conditions of use PROC28 SECTION 3: Contributing scenario controlling environmental exposure: 2.1 Use as additive in foams (ERC5) PROC28 Amount used, frequency and duration of use (or from service life) Daily use amount at site: Not relevant for this material. Annual use amount at site: Not relevant for this material. Conditions and measures related to biological sewage treatment plant Biological STP: Standard [Effectiveness water: 2.77%] Discharge rate of STP: >= 2E3 m3/day Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic 2.2 Chemical production or from service life) Duration of the used product: Solid (medium dusty form) Anount used, frequency and duration of use (or from service life) Duration of activity: <=8.0 h/day</lambda>	CS8	Transfer of substance or mixture (charging and discharging) at dedicated facilities		PROC8b
CS11 Hand-mixing with initimate contact and only PPE available PROC19 CS12 Manual maintenance (cleaning and repair) of machinery PROC28 SECTION 2: 2.0 Conditions of use PROC28 2.1 Contributing scenario controlling environmental exposure: 2.1 Use as additive in foams (ERC5) PROC28 Annual use amount at site: Not relevant for this material. Conditions and measures related to biological sewage treatment plant PROC19 Biological STP: Standard [Effectiveness water: 2.77%] Discharge rate of STP: >= 2E3 m3/day PROC29 Application of the STP sludge on agricultural soil: Yes Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) PROC19 Product (article) characteristic Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic Product: <= 100 %	CS9			
Character PROC28 SECTION 2: 2.0 Conditions of use 2.1 Contributing scenario controlling environmental exposure: 2.1 Use as additive in foams (ERC5) Amount used, frequency and duration of use (or from service life) Daily use amount at site: Not relevant for this material. Annual use amount at site: Not relevant for this material. Conditions and measures related to biological sewage treatment plant Biological STP: Standard [Effectiveness water: 2.77%] Discharge rate of STP: >= 2E3 m3/day Application of the STP sludge on agricultural soil: Yes Other given operational conditions affecting environmental exposure • Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic Product (article) characteristic Solid (medium dusty form) Amount used, frequency and duration of use (or from service life) Duration of activity: <=8.0 h/day	CS10	Use as laboratory reage	nt	PROC15
SECTION 2: 2.0 Continuous of use 2.1 Contributing scenario controlling environmental exposure: 2.1 Use as additive in foams (ERC5) Amount used, frequency and duration of use (or from service life) Daily use amount at site: Not relevant for this material. Annual use amount at site: Not relevant for this material. Conditions and measures related to biological sewage treatment plant Biological STP: Standard [Effectiveness water: 2.77%] Discharge rate of STP: >= 2E3 m3/day Application of the STP sludge on agricultural soil: Yes Other given operational conditions affecting environmental exposure • Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic Percentage (w/w) of substance in mixture/article: <= 100 %	CS11	Hand-mixing with intin	nate contact and only PPE available	PROC19
2.1 Contributing scenario controlling environmental exposure: 2.1 Use as additive in foams (ERC5) Amount used, frequency and duration of use (or from service life) Daily use amount at site: Not relevant for this material. Annual use amount at site: Not relevant for this material. Conditions and measures related to biological sewage treatment plant Biological STP: Standard [Effectiveness water: 2.77%] Discharge rate of STP: >= 2E3 m3/day Application of the STP sludge on agricultural soil: Yes Other given operational conditions affecting environmental exposure • Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic Percentage (w/w) of substance in mixture/article: <= 100 %	CS12	Manual maintenance (cleaning and repair) of machinery PROC28		
2.1 Use as additive in foams (ERC5) Amount used, frequency and duration of use (or from service life) Daily use amount at site: Not relevant for this material. Annual use amount at site: Not relevant for this material. Conditions and measures related to biological sewage treatment plant Biological STP: Standard [Effectiveness water: 2.77%] Discharge rate of STP: >= 2E3 m3/day Application of the STP sludge on agricultural soil: Yes Other given operational conditions affecting environmental exposure Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic: Product (article) characteristic: Percentage (w/w) of substance in mixture/article: <= 100 %				
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Discharge rate of STP: >= 2E3 m3/day Application of the STP sludge on agricultural soil: Yes Other given operational conditions affecting environmental exposure Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic Percentage (w/w) of substance in mixture/article: <= 100 %	Condit	ions and measures relat	ed to biological sewage treatment plant	
Application of the STP sludge on agricultural soil: Yes Other given operational conditions affecting environmental exposure Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure:	Biologi	ical STP: Standard [Effec	tiveness water: 2.77%]	
Other given operational conditions affecting environmental exposure • Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic Percentage (w/w) of substance in mixture/article: <= 100 %	Dischar	rge rate of STP: >= 2E3 r	n3/day	
Receiving surface water flow: >= 1.8E4 m3/day 2.2 Contributing scenario controlling worker exposure exposure: 2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Amount used, frequency and duration of use (or from service life) Duration of activity: <=8.0 h/day Technical conditions and measures to control dispersion from source towards the worker General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %) Occupational Health and Safety Management System: Advanced Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%] Conditions and measures related to personal protection, hygiene and health evaluation Respiratory protection: No. (Effectiveness inhalation: 0%) Dermal protection: No. (Effectiveness inhalation: 0%) Cother given operational conditions affecting worker exposure Place of use: Indoor 2.3 Contributing scenario controlling worker exposure exposure: 2.3 Chemical production or refinery in closed continuous process with occasional	Applica	ation of the STP sludge of	n agricultural soil: Yes	
2.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) Product (article) characteristic Percentage (w/w) of substance in mixture/article: <= 100 %	Other g			
or processes with equivalent containment conditions (PROC1) Product (article) characteristic Percentage (w/w) of substance in mixture/article: <= 100 %	2.2		Contributing scenario controlling worker exposure exp	osure:
Percentage (w/w) of substance in mixture/article: <= 100 %		2.2 Chemical production or refinery in closed process without likelihood of exposure		
Physical form of the used product: Solid (medium dusty form) Amount used, frequency and duration of use (or from service life) Duration of activity: <=8.0 h/day				
Amount used, frequency and duration of use (or from service life) Duration of activity: <=8.0 h/day	Produc	ct (article) characteristic	or processes with equivalent containment conditions (PRO	
Duration of activity: <=8.0 h/day			or processes with equivalent containment conditions (PRO	
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Conditions and measures related to personal protection, hygiene and health evaluation Respiratory protection: No. (Effectiveness inhalation: 0 %) Dermal protection: No. (Effectiveness dermal: 0 %) Other given operational conditions affecting workers exposure Place of use: Indoor 2.3 Contributing scenario controlling worker exposure exposure: 2.3 Chemical production or refinery in closed continuous process with occasional	Percent Physica Amoun Duratio Technic	tage (w/w) of substance in al form of the used produce nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas	or processes with equivalent containment conditions (PRO n mixture/article: <= 100 % et: Solid (medium dusty form) luration of use (or from service life) duration of use (or from service life)	C1)
Respiratory protection: No. (Effectiveness inhalation: 0 %) Dermal protection: No. (Effectiveness dermal: 0 %) Other given operational conditions affecting workers exposure Place of use: Indoor 2.3 Contributing scenario controlling worker exposure exposure: 2.3 Chemical production or refinery in closed continuous process with occasional	Percent Physica Amoun Duratio Technia General	tage (w/w) of substance in al form of the used produce nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic gener	or processes with equivalent containment conditions (PRO n mixture/article: <= 100 % et: Solid (medium dusty form) luration of use (or from service life) / mures to control dispersion from source towards the worked al ventilation (1-3 air changes per hour) (Effectiveness inhala	C1)
Dermal protection: No. (Effectiveness dermal: 0 %) Other given operational conditions affecting workers exposure Place of use: Indoor 2.3 Contributing scenario controlling worker exposure exposure: 2.3 Chemical production or refinery in closed continuous process with occasional	Percent Physica Amoun Duratio Technic General Occupa	tage (w/w) of substance in al form of the used product nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic generational Health and Safety	or processes with equivalent containment conditions (PRO n mixture/article: <= 100 % et: Solid (medium dusty form) luration of use (or from service life) further to control dispersion from source towards the worked al ventilation (1-3 air changes per hour) (Effectiveness inhala Management System: Advanced	C1)
Other given operational conditions affecting workers exposure Place of use: Indoor 2.3 Contributing scenario controlling worker exposure exposure: 2.3 Chemical production or refinery in closed continuous process with occasional	Percent Physica Amoun Duratio Technie General Occupa Local e	tage (w/w) of substance in al form of the used product nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic generational Health and Safety exhaust ventilation: No [E	or processes with equivalent containment conditions (PRO a mixture/article: <= 100 % ct: Solid (medium dusty form) Auration of use (or from service life) // Aures to control dispersion from source towards the worke al ventilation (1-3 air changes per hour) (Effectiveness inhala Management System: Advanced ffectiveness inhalation: 0%, Dermal: 0%]	C1)
Contributing scenario controlling worker exposure exposure: 2.3 Contributing scenario controlling worker exposure: 2.3 Chemical production or refinery in closed continuous process with occasional	Percent Physica Amoun Duratio Technic General Occupa Local e Condit	tage (w/w) of substance in al form of the used product nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic genera- ational Health and Safety exhaust ventilation: No [E cions and measures relat	or processes with equivalent containment conditions (PRO a mixture/article: <= 100 % ct: Solid (medium dusty form) luration of use (or from service life) // ures to control dispersion from source towards the worke al ventilation (1-3 air changes per hour) (Effectiveness inhala Management System: Advanced ffectiveness inhalation: 0%, Dermal: 0%] ed to personal protection, hygiene and health evaluation	C1)
2.3 Contributing scenario controlling worker exposure exposure: 2.3 Chemical production or refinery in closed continuous process with occasional	Percent Physica Amoun Duratio Technic General Occupa Local e Condit Respira	tage (w/w) of substance in al form of the used product nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic genera- ational Health and Safety exhaust ventilation: No [E cions and measures relat atory protection : No. (Effe	or processes with equivalent containment conditions (PRO n mixture/article: <= 100 % et: Solid (medium dusty form) luration of use (or from service life) / mures to control dispersion from source towards the worked al ventilation (1-3 air changes per hour) (Effectiveness inhala Management System: Advanced ffectiveness inhalation: 0%, Dermal: 0%] ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %)	C1)
2.3 Chemical production or refinery in closed continuous process with occasional	Percent Physica Amoun Duratio Technid General Occupa Local e Condit Respira	tage (w/w) of substance in al form of the used product nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic gener- ational Health and Safety exhaust ventilation: No [E tions and measures relat atory protection: No. (Effective I protection: No. (Effective)	or processes with equivalent containment conditions (PRO a mixture/article: <= 100 % ct: Solid (medium dusty form) duration of use (or from service life) // sures to control dispersion from source towards the worked al ventilation (1-3 air changes per hour) (Effectiveness inhala Management System: Advanced ffectiveness inhalation: 0%, Dermal: 0%] ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %) reness dermal: 0 %)	C1)
	Percent Physica Amoun Duratio Technid General Occupa Local e Condit Respira Dermal Other g	tage (w/w) of substance in al form of the used product nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic genera- ational Health and Safety exhaust ventilation: No [E cions and measures relat atory protection: No. (Effectiv given operational condit	or processes with equivalent containment conditions (PRO a mixture/article: <= 100 % ct: Solid (medium dusty form) duration of use (or from service life) // sures to control dispersion from source towards the worked al ventilation (1-3 air changes per hour) (Effectiveness inhala Management System: Advanced ffectiveness inhalation: 0%, Dermal: 0%] ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %) reness dermal: 0 %)	C1)
controlled exposure or processes with equivalent containment conditions (PROC2)	Percent Physica Amoun Duratio Technia General Occupa Local e Condit Respira Dermal Other §	tage (w/w) of substance in al form of the used product nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic genera- ational Health and Safety exhaust ventilation: No [E cions and measures relat atory protection: No. (Effectiv given operational condit	or processes with equivalent containment conditions (PRO in mixture/article: <= 100 % ct: Solid (medium dusty form) luration of use (or from service life) // ures to control dispersion from source towards the worked al ventilation (1-3 air changes per hour) (Effectiveness inhala Management System: Advanced ffectiveness inhalation: 0%, Dermal: 0%] ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %) reness dermal: 0 %) tions affecting workers exposure	C1)
	Percent Physica Amoun Duratio Technia General Occupa Local e Condit Respira Dermal Other s Place of	tage (w/w) of substance in al form of the used product nt used, frequency and d on of activity: <=8.0 h/day ical conditions and meas I ventilation: Basic genera- ational Health and Safety exhaust ventilation: No [E cions and measures relat atory protection: No. (Effectiv given operational condit	or processes with equivalent containment conditions (PRO in mixture/article: <= 100 % ct: Solid (medium dusty form) furation of use (or from service life) // rures to control dispersion from source towards the worked al ventilation (1-3 air changes per hour) (Effectiveness inhala Management System: Advanced ffectiveness inhalation: 0%, Dermal: 0%] ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %) reness dermal: 0 %) tions affecting workers exposure 2.3 Chemical production or refinery in closed continuous p	C1) er tion: 0 %) osure: process with occasional



Product (article) characteristic

Percentage (w/w) of substance in mixture/article: <= 100 %

Physical form of the used product: Solid (medium dusty form)

Amount used, frequency and duration of use (or from service life)

Duration of activity: <=8.0 h/day

Technical conditions and measures to control dispersion from source towards the worker

General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)

Occupational Health and Safety Management System: Advanced

Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection: No. (Effectiveness inhalation: 0 %)

Dermal protection: No. (Effectiveness dermal: 0 %)

Other given operational conditions affecting workers exposure

Place of use: Indoor

2.4	Contributing scenario controlling worker exposure exposure:	
	2.4 Manufacture or formulation in the chemical industry in closed batch processes with	
	occasional controlled exposure or processes with equivalent containment conditions	
	(PROC3)	

Product (article) characteristic

Percentage (w/w) of substance in mixture/article: <= 100 %

Physical form of the used product: Solid (medium dusty form)

Amount used, frequency and duration of use (or from service life)

Duration of activity: <=8.0 h/day

Technical conditions and measures to control dispersion from source towards the worker

General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0%)

Occupational Health and Safety Management System: Advanced

Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection: No. (Effectiveness inhalation: 0%)

Dermal protection: No. (Effectiveness dermal: 0 %)

Other given operational conditions affecting workers exposure

Place of use: Indoor

2.5

Contributing scenario controlling worker exposure exposure: 2.5 Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristic

Percentage (w/w) of substance in mixture/article: <= 100 %

Physical form of the used product: Solid (medium dusty form)

Amount used, frequency and duration of use (or from service life)



Duration of activity: <=8.0 h/day	,
	ures to control dispersion from source towards the worker
	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	
- ·	ffectiveness inhalation: 0%, Dermal: 0%]
	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
	ions affecting workers exposure
Place of use: Indoor	
2.6	Contributing scenario controlling worker exposure exposure:
	2.6 Mixing or blending in batch processes (PROC5)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	et: Solid (medium dusty form)
Amount used, frequency and d	uration of use (or from service life)
Duration of activity: <=8.0 h/day	,
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.7	Contributing scenario controlling worker exposure exposure: 2.7 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	
	uration of use (or from service life)
Duration of activity: <=8.0 h/day	7
Technical conditions and meas	ures to control dispersion from source towards the worker
	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	
	ffectiveness inhalation: 0%, Dermal: 0%]



Conditions and measures relat	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational conditional	tions affecting workers exposure
Place of use: Indoor	
2.8	Contributing scenario controlling worker exposure exposure: 2.8 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) characteristic	2
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produc	ct: Solid (medium dusty form)
Amount used, frequency and d	luration of use (or from service life)
Duration of activity: <=8.0 h/day	y
Technical conditions and meas	sures to control dispersion from source towards the worker
General ventilation: Basic gener	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational conditional	tions affecting workers exposure
Place of use: Indoor	
2.9	Contributing scenario controlling worker exposure exposure: 2.9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)
Product (article) characteristic	2
Percentage (w/w) of substance in	n mixture/article: <= 100 %
Physical form of the used produce	ct: Solid (medium dusty form)
Amount used, frequency and d	luration of use (or from service life)
Duration of activity: <=8.0 h/day	y .
Technical conditions and meas	sures to control dispersion from source towards the worker
General ventilation: Basic gener	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	Effectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ted to personal protection, hygiene and health evaluation
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection

Other given operational condit	ions affecting workers exposure	
Place of use: Indoor		
2.10	Contributing scenario controlling worker exposure exposure:	
	2.10 Use as laboratory reagent (PROC15)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produc	et: Solid (medium dusty form)	
Amount used, frequency and d	uration of use (or from service life)	
Duration of activity: <=8.0 h/day	/	
Technical conditions and meas	sures to control dispersion from source towards the worker	
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)	
Dermal protection: No. (Effectiv	eness dermal: 0 %)	
Other given operational condit	ions affecting workers exposure	
Place of use: Indoor		
2.11	Contributing scenario controlling worker exposure exposure:	
	2.11 Hand-mixing with intimate contact and only PPE available (PROC19)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produc	et: Solid (medium dusty form)	
Amount used, frequency and d	uration of use (or from service life)	
Duration of activity: <=4.0 h/day		
Technical conditions and measures to control dispersion from source towards the worker		
General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety Management System: Advanced		
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures related to personal protection, hygiene and health evaluation		
Respiratory protection: No. (Effectiveness inhalation: 0 %)		
Dermal protection: Yes (Chemically resistant gloves conforming to EN374) and (other) appropriate dermal protection [Effectiveness dermal: 95%]		
Other given operational conditions affecting workers exposure		
Place of use: Indoor		
2.12	Contributing scenario controlling worker exposure exposure:	
	2.12 Manual maintenance (cleaning and repair) of machinery (PROC28)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	



Physical form of the used product: S	folid (medium dusty form)	
Amount used, frequency and dura	- · · · · · · · · · · · · · · · · · · ·	
Duration of activity: <=8.0 h/day		
· · ·	s to control dispersion from source towar	ds the worker
	entilation (1-3 air changes per hour) (Effecti	
Occupational Health and Safety Mar		
- ·	tiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures related t	to personal protection, hygiene and health	evaluation
Respiratory protection: No. (Effectiv	veness inhalation: 0 %)	
Dermal protection: Yes (Chemically [Effectiveness dermal: 80%]	resistant gloves conforming to EN374) and	(other) appropriate dermal protection
Other given operational condition	s affecting workers exposure	
Place of use: Indoor		
SECTION 3:	3.0 Exposure estimation	
3.1. Environment		
Contributing scenario controlling	environmental exposure: Use as additive i	n foams (ERC5)
Release	Release estimation method	Explanations
Water	Estimated release rate	Local release rate: 3 kg/day
Air	Estimated release rate	Local release rate: 0.5 kg/day
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%
Protection target	Exposure concentration	Risk quantification (RCR)
Fresh water	Local PEC: 0.151 mg/l	0.30
Sedimentation (Fresh water)	Local PEC: 3.86 mg/kg dw	0.30
Marine water	Local PEC: 0.015 mg/l	0.29
Sedimentation (Marine water)	Local PEC: 0.396 mg/kg dw	0.30
Sewage Treatment Plant	Local PEC: 1.458 mg/l	0.02
Agricultural soil	Local PEC: 1.014 mg/kg dw	0.44
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.39E-4 mg/m ³	< 0.01
Man via Environment - Oral	Exposure via food consumption: 0.014 mg/kg bw/day	0.03
Man via Environment - Combined routes		0.03
3.2. Workers		
	worker exposure: Chemical production or with equivalent containment conditions (PR	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.01 mg/m ³	<0.01
Inhalation, Systemic effects, Acute	0.04 mg/m ³	<0.01



Dermal, Systemic effects, Long Term	0.034 mg/kg bw/day	<0.01
Combined routes, Systemic effects, Long Term		<0.01
Contributing scenario controlling wo with occasional controlled exposure or		or refinery in closed continuous process at conditions (PROC2)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024
Dermal, Systemic effects, Long Term	1.37 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.176
Contributing scenario controlling wo batch processes with occasional controll		ulation in the chemical industry in closed lent containment conditions (PROC3)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	0.69 mg/kg bw/day	0.058
Combined routes, Systemic effects, Long Term		0.179
Contributing scenario controlling wo (PROC4)	rker exposure: Chemical production	n where opportunity for exposure arises
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
	Exposure concentration 5 mg/m ³	Risk quantification (RCR) 0.602
effects Inhalation, Systemic effects, Long Term	-	
effects Inhalation, Systemic effects, Long	5 mg/m ³	0.602
effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute	5 mg/m ³ 20 mg/m ³	0.602
effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute Dermal, Systemic effects, Long Term Combined routes, Systemic effects, Long Term	5 mg/m ³ 20 mg/m ³ 1.372 mg/kg bw/day	0.602 0.243 0.116 0.719
effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute Dermal, Systemic effects, Long Term Combined routes, Systemic effects,	5 mg/m ³ 20 mg/m ³ 1.372 mg/kg bw/day	0.602 0.243 0.116 0.719
effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute Dermal, Systemic effects, Long Term Combined routes, Systemic effects, Long Term Contributing scenario controlling wo Route of exposure and type of	5 mg/m ³ 20 mg/m ³ 1.372 mg/kg bw/day rker exposure: Mixing or blending in	0.602 0.243 0.116 0.719 n batch processes (PROC5)
effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute Dermal, Systemic effects, Long Term Combined routes, Systemic effects, Long Term Contributing scenario controlling wo Route of exposure and type of effects Inhalation, Systemic effects, Long Term	5 mg/m ³ 20 mg/m ³ 1.372 mg/kg bw/day rker exposure: Mixing or blending in Exposure concentration	0.602 0.243 0.116 0.719 n batch processes (PROC5) Risk quantification (RCR)
effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute Dermal, Systemic effects, Long Term Combined routes, Systemic effects, Long Term Contributing scenario controlling wo Route of exposure and type of effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute	5 mg/m ³ 20 mg/m ³ 1.372 mg/kg bw/day rker exposure: Mixing or blending in Exposure concentration 5 mg/m ³	0.602 0.243 0.116 0.719 n batch processes (PROC5) Risk quantification (RCR) 0.602
effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute Dermal, Systemic effects, Long Term Combined routes, Systemic effects, Long Term Contributing scenario controlling wo Route of exposure and type of effects Inhalation, Systemic effects, Long	5 mg/m ³ 20 mg/m ³ 1.372 mg/kg bw/day rker exposure: Mixing or blending in Exposure concentration 5 mg/m ³ 20 mg/m ³	0.602 0.243 0.116 0.719 n batch processes (PROC5) Risk quantification (RCR) 0.602 0.243
effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute Dermal, Systemic effects, Long Term Combined routes, Systemic effects, Long Term Contributing scenario controlling wo Route of exposure and type of effects Inhalation, Systemic effects, Long Term Inhalation, Systemic effects, Acute Dermal, Systemic effects, Long Term Combined routes, Systemic effects, Long Term	5 mg/m ³ 20 mg/m ³ 1.372 mg/kg bw/day rker exposure: Mixing or blending in Exposure concentration 5 mg/m ³ 20 mg/m ³ 2.742 mg/kg bw/day	0.602 0.243 0.116 0.719 n batch processes (PROC5) Risk quantification (RCR) 0.602 0.243 0.243 0.243



Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo dedicated facilities (PROC8b)	rker exposure: Transfer of substa	nce or mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.353
Contributing scenario controlling wo filling line, including weighing) (PROC		nce or mixture into small containers (dedicate
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.719
Contributing scenario controlling wo	rker exposure: Use as laboratory 1	reagent (PROC15)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024
Dermal, Systemic effects, Long Term	0.34 mg/kg bw/day	0.029
Combined routes, Systemic effects, Long Term		0.089
Contributing scenario controlling wo (PROC19)	rker exposure: Hand-mixing with	intimate contact and only PPE available
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	3 mg/m ³	0.361
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	7.072 mg/kg bw/day	0.599
Combined routes, Systemic effects, Long Term		0.961
Contributing scenario controlling wo (PROC28)	rker exposure: Manual maintenar	nce (cleaning and repair) of machinery



Route of exposure and type of effects		Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term		5 mg/m ³	0.602
Inhalation, Systemic effects, Acute		20 mg/m ³	0.243
Dermal, Systemic effects, Long Term		2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term			0.835
SECTION 4:	4.0 Guidance to DU to evaluate whether he works inside the boundaries set by the ES		de the boundaries set by the ES
4.1. Health			
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.			
4.2 Environment			

4.2. Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.

Exposure Scenario 6: Use at industrial sites - Use as additive in intumescent coatings

SECTION 1:		1.0 Title of Exposure Scenario:		
		Use at industrial sites - Use as additive in intumescent coatings		
Contri	Contributing scenario controlling environmental exposure			
CS1	Use as additive in intur	nescent coatings	ERC5	
Contri	buting scenario controll	ing worker exposure		
CS2	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions		PROC3	
CS3	Chemical production w	here opportunity for exposure arises	PROC4	
CS4	Mixing or blending in b	batch processes	PROC5	
CS5	Industrial spraying with	n Local Exhaust Ventilation (LEV)	PROC7	
CS6	Industrial spraying without Local Exhaust Ventilation (LEV)		PROC7	
CS7	Transfer of substance or mixture (charging and discharging) at non-dedicated PROC8a facilities (Solid) France		PROC8a	
CS8	Transfer of substance or mixture (charging and discharging) at dedicated facilities (Solid) PROC8b		PROC8b	
CS9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC9		PROC9	
CS10	Roller application or brushing		PROC10	
CS11	Treatment of articles by dipping and pouring		PROC13	
CS12	Use as laboratory reagent		PROC15	
CS13	Hand-mixing with intimate contact and only PPE available		PROC19	
CS14	Manual maintenance (cleaning and repair) of machinery (Solid)		PROC28	
CS15	Transfer of substance or mixture (charging and discharging) at dedicated facilitiesPROC8b(Liquid)		PROC8b	



CS16	Manual maintenance (c	leaning and repair) of machinery (Liquid)	PROC28
CS17	Transfer of substance of facilities (Liquid)	Transfer of substance or mixture (charging and discharging) at non-dedicated PROC8a	
SECTI	SECTION 2: 2.0 Conditions of use		
2.1	Contributing scenario controlling environmental exposure: 2.1 Use as additive in intumescent coatings (ERC5)		
Amour	ıt used, frequency and d	uration of use (or from service life)	
Daily u	se amount at site: Not rel	evant for this material.	
Annual	use amount at site: Not r	elevant for this material.	
Condit	ions and measures relat	ed to biological sewage treatment plant	
Biologi	ical STP: Standard [Effec	tiveness water: 2.77%]	
Dischar	rge rate of STP: >= 2E3 r	n3/day	
Applica	ation of the STP sludge or	n agricultural soil: Yes	
Other g		ions affecting environmental exposure er flow: >= 1.8E4 m3/day	
2.2			
Produc	ct (article) characteristic		
Percent	age (w/w) of substance ir	n mixture/article: <= 100 %	
Physica	al form of the used produce	et: Solid (medium dusty form)	
Amour	nt used, frequency and d	uration of use (or from service life)	
Duratio	on of activity: <=8.0 h/day	1	
Techni	cal conditions and meas	ures to control dispersion from source towards the wo	rker
Genera	l ventilation: Basic genera	al ventilation (1-3 air changes per hour) (Effectiveness inh	alation: 0 %)
Occupa	tional Health and Safety	Management System: Advanced	
Local e	xhaust ventilation: No. [H	Effectiveness inhalation: 0%, Dermal: 0%]	
Condit	ions and measures relat	ed to personal protection, hygiene and health evaluatio	n
Respira	utory protection: No. (Effe	ectiveness inhalation: 0 %)	
Dermal	protection: No. (Effectiv	eness dermal: 0 %)	
Other g	given operational condit	ions affecting workers exposure	
Place of	f use: Indoor		
2.3		Contributing scenario controlling worker exposure e 2.3 Chemical production where opportunity for exposur	
Produc	ct (article) characteristic		
Percent	age (w/w) of substance in	n mixture/article: <= 100 %	
		ct: Solid (medium dusty form)	
Amour	nt used, frequency and d	uration of use (or from service life)	
Duratio	on of activity: <=8.0 h/day	1	
Juratio	n of activity: <=8.0 h/day	1	



Technical conditions and meas	sures to control dispersion from source towards the worker	
	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety Management System: Advanced		
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational condi	tions affecting workers exposure	
Place of use: Indoor		
2.4	Contributing scenario controlling worker exposure exposure: 2.4 Mixing or blending in batch processes (PROC5)	
Product (article) characteristic		
Percentage (w/w) of substance in		
Physical form of the used produce	• •	
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	у	
Technical conditions and meas	sures to control dispersion from source towards the worker	
General ventilation: Basic gener	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
· · ·	Management System: Advanced	
Local exhaust ventilation: No [E	Effectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ted to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational conditional	tions affecting workers exposure	
Place of use: Indoor		
2.5	Contributing scenario controlling worker exposure exposure: 2.5 Industrial spraying with Local Exhaust Ventilation (LEV) (PROC7)	
Product (article) characteristic	·;	
Percentage (w/w) of substance in	n mixture/article: <= 30 %	
Physical form of the used produc		
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	ý	
Technical conditions and meas	sures to control dispersion from source towards the worker	
Ventilation working room: Gene	ral ventilation (mechanical)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: Yes (TRA effectiveness)[Effectiveness inhalation: 95%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	



Respiratory protection: No. (Effe	ectiveness inhalation: () %)	
	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
[Effectiveness dermal: 80%]		
Other given operational condit	tions affecting workers exposure	
Place of use: Indoor		
Operating temperature: >115 °C		
2.6	Contributing scenario controlling worker exposure exposure: 2.6 Industrial spraying without Local Exhaust Ventilation (LEV) (PROC7)	
Product (article) characteristic	2	
Percentage (w/w) of substance in	n mixture/article: <= 30 %	
Physical form of the used produc	ct: Liquid	
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	ý	
Technical conditions and meas	sures to control dispersion from source towards the worker	
Ventilation working room: Gene	vral ventilation (mechanical)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: Yes (Res	spirator with APF of 10) [Effectiveness inhalation: 90%]	
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational condit	tions affecting workers exposure	
Place of use: Indoor		
Operating temperature: >115 °C		
2.7	Contributing scenario controlling worker exposure exposure:	
	2.7 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (Solid) (PROC8a)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produc		
-	luration of use (or from service life)	
Duration of activity: <=8.0 h/day		
Technical conditions and measures to control dispersion from source towards the worker General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety Management System: Advanced		
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Effectiveness inhalation: 0 %)		
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection	



Other given operational conditions affecting workers exposure		
Place of use: Indoor		
2.8	Contributing scenario controlling worker exposure exposure:	
	2.8 Transfer of substance or mixture (charging and discharging) at dedicated facilities (Solid) (PROC8b)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produc	ct: Solid (medium dusty form)	
Amount used, frequency and d	uration of use (or from service life)	
Duration of activity: <=8.0 h/day	/	
Technical conditions and meas	ures to control dispersion from source towards the worker	
General ventilation: Basic gener	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational conditional	ions affecting workers exposure	
Place of use: Indoor		
2.9	Contributing scenario controlling worker exposure exposure: 2.9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produc		
-	luration of use (or from service life)	
Duration of activity: <=8.0 h/day		
	ures to control dispersion from source towards the worker	
	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
-		
Occupational Health and Safety Management System: Advanced Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures related to personal protection, hygiene and health evaluation Respiratory protection: No. (Effectiveness inhalation: 0 %)		
Dermal protection: Yes (Chemically resistant gloves conforming to EN374) and (other) appropriate dermal protection [Effectiveness dermal: 80%]		
Other given operational conditions affecting workers exposure		
Place of use: Indoor		
2.10	Contributing scenario controlling worker exposure exposure:	
	2.10 Roller application or brushing (PROC10)	



Product (article) characterist	ic	
Percentage (w/w) of substance in mixture/article: <= 30 %		
Physical form of the used product: Liquid		
Amount used, frequency and	duration of use (or from service life)	
Duration of activity: <=8.0 h/da	ay	
	sures to control dispersion from source towards the worker	
Ventilation working room: Gen		
Occupational Health and Safety	/ Management System: Advanced	
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures rela	ted to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemi [Effectiveness dermal: 80%]	cally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational cond	itions affecting workers exposure	
Place of use: Indoor		
Operating temperature: >115 °C	3	
2.11	Contributing scenario controlling worker exposure exposure:	
	2.11 Treatment of articles by dipping and pouring (PROC13)	
Product (article) characterist	ic	
Percentage (w/w) of substance	in mixture/article: <= 30 %	
Physical form of the used produ	act: Liquid	
Amount used, frequency and	duration of use (or from service life)	
Duration of activity: <=8.0 h/da	ay	
Technical conditions and mea	sures to control dispersion from source towards the worker	
General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety Management System: Advanced		
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures related to personal protection, hygiene and health evaluation		
Respiratory protection: No. (Ef	fectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemically resistant gloves conforming to EN374) and (other) appropriate dermal protection [Effectiveness dermal: 80%]		
Other given operational conditions affecting workers exposure		
Place of use: Indoor		
2.12 Contributing scenario controlling worker exposure exposure: 2.12 Use as laboratory reagent (PROC15)		
Product (article) characteristic		
Percentage (w/w) of substance	in mixture/article: <= 100 %	
Physical form of the used produ	act: Solid (medium dusty form)	
-	duration of use (or from service life)	



Duration of activity: <=8.0 h/day	y	
Technical conditions and meas	sures to control dispersion from source towards the worker	
General ventilation: Basic gener	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)	
Occupational Health and Safety Management System: Advanced		
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)	
Dermal protection: No. (Effectiv	veness dermal: 0 %)	
Other given operational conditional conditiona	tions affecting workers exposure	
Place of use: Indoor		
2.13	Contributing scenario controlling worker exposure exposure: 2.13 Hand-mixing with intimate contact and only PPE available (PROC19)	
Product (article) characteristic	2	
Percentage (w/w) of substance in	n mixture/article: <= 30 %	
Physical form of the used produc	ct: Liquid	
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	ý	
Technical conditions and meas	sures to control dispersion from source towards the worker	
Ventilation working room: Gene	ral ventilation (mechanical)	
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	
Conditions and measures relat	ed to personal protection, hygiene and health evaluation	
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)	
Dermal protection: Yes (Chemic [Effectiveness dermal: 95%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection	
Other given operational condi	tions affecting workers exposure	
Place of use: Indoor		
Operating temperature: >115 °C		
2.14	Contributing scenario controlling worker exposure exposure: 2.14 Manual maintenance (cleaning and repair) of machinery (Solid) (PROC28)	
Product (article) characteristic		
Percentage (w/w) of substance in	n mixture/article: <= 100 %	
Physical form of the used produce	ct: Solid (medium dusty form)	
Amount used, frequency and d	luration of use (or from service life)	
Duration of activity: <=8.0 h/day	y	
Technical conditions and meas	sures to control dispersion from source towards the worker	
General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety	Management System: Advanced	
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]	



Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
2.15	Contributing scenario controlling worker exposure exposure:
	2.15 Transfer of substance or mixture (charging and discharging) at dedicated facilities (Liquid) (PROC8b)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 30 %
Physical form of the used produc	zt: Liquid
Amount used, frequency and d	luration of use (or from service life)
Duration of activity: <=8.0 h/day	1
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection
Other given operational condit	ions affecting workers exposure
Place of use: Indoor	
Operating temperature: >115 °C	
2.16	Contributing scenario controlling worker exposure exposure: 2.16 Manual maintenance (cleaning and repair) of machinery (Liquid) (PROC28)
Product (article) characteristic	
Percentage (w/w) of substance in	n mixture/article: <= 30 %
Physical form of the used produc	zt: Liquid
Amount used, frequency and d	luration of use (or from service life)
Duration of activity: <=8.0 h/day	1
Technical conditions and meas	ures to control dispersion from source towards the worker
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)
Occupational Health and Safety	Management System: Advanced
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]
Conditions and measures relat	ed to personal protection, hygiene and health evaluation
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection



Other given operational condition	s affecting workers exposure		
Place of use: Indoor			
Operating temperature: >115 °C			
2	Contributing scenario controlling worker e 17 Transfer of substance or mixture (charging cilities (Liquid) (PROC8a)		
Product (article) characteristic			
Percentage (w/w) of substance in m	ixture/article: <= 30 %		
Physical form of the used product: I	Liquid		
Amount used, frequency and dura	ation of use (or from service life)		
Duration of activity: <=8.0 h/day			
Technical conditions and measure	es to control dispersion from source toward	ds the worker	
General ventilation: Basic general v	entilation (1-3 air changes per hour) (Effecti	veness inhalation: 0 %)	
Occupational Health and Safety Ma	nagement System: Advanced		
Local exhaust ventilation: No [Effe	ctiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures related	to personal protection, hygiene and health	evaluation	
Respiratory protection: No. (Effection	veness inhalation: 0 %)		
Dermal protection: Yes (Chemically [Effectiveness dermal: 80%]	v resistant gloves conforming to EN374) and	(other) appropriate dermal protection	
Other given operational condition	s affecting workers exposure		
Place of use: Indoor			
Operating temperature: >115 °C			
SECTION 3:	ECTION 3: 3.0 Exposure estimation		
3.1. Environment			
Contributing scenario controlling	environmental exposure: Use as additive i	n intumescent coatings (ERC5)	
Release	Release estimation method	Explanations	
Water	Estimated release rate	Local release rate: 3 kg/day	
Air	Estimated release rate	Local release rate: 0.5 kg/day	
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%	
Protection target	Exposure concentration	Risk quantification (RCR)	
Fresh water	Local PEC: 0.151 mg/l	0.30	
Sedimentation (Fresh water)	Local PEC: 3.86 mg/kg dw	0.30	
Marine water	Local PEC: 0.015 mg/l	0.29	
Sedimentation (Marine water)	Local PEC: 0.396 mg/kg dw	0.30	
Sewage Treatment Plant	Local PEC: 1.458 mg/l	0.02	
Agricultural soil	Local PEC: 1.014 mg/kg dw	0.44	
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.39E-4 mg/m ³	< 0.01	



Man via Environment - Oral	Exposure via food consumption: 0.014 mg/kg bw/day	0.03
Man via Environment - Combined routes		0.03
3.2. Workers		
Contributing scenario controlling wo batch processes with occasional control		ulation in the chemical industry in closed lent containment conditions (PROC3)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049
Dermal, Systemic effects, Long Term	0.69 mg/kg bw/day	0.058
Combined routes, Systemic effects, Long Term		0.179
Contributing scenario controlling wo (PROC4)	rker exposure: Chemical production	where opportunity for exposure arises
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, Long Term		0.719
Contributing scenario controlling wo	rker exposure: Mixing or blending in	batch processes (PROC5)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.835
Contributing scenario controlling wo (PROC7)	rker exposure: Industrial spraying w	ith Local Exhaust Ventilation (LEV)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.4 mg/m ³	0.048
Inhalation, Systemic effects, Acute	0.4 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	8.572 mg/kg bw/day	0.726
Combined routes, Systemic effects, Long Term		0.775
Contributing scenario controlling wo (PROC7)	rker exposure: Industrial spraying wi	thout Local Exhaust Ventilation (LEV)



Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	0.795 mg/m ³	0.096	
Inhalation, Systemic effects, Acute	0.795 mg/m ³	<0.01	
Dermal, Systemic effects, Long Term	8.572 mg/kg bw/day	0.726	
Combined routes, Systemic effects, Long Term		0.822	
Contributing scenario controlling wo non-dedicated facilities (Solid) (PROC	rker exposure: Transfer of substance or a Ba)	mixture (charging and discharging) at	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602	
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243	
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232	
Combined routes, Systemic effects, Long Term		0.835	
Contributing scenario controlling wo dedicated facilities (Solid) (PROC8b)	rker exposure: Transfer of substance or	mixture (charging and discharging) at	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12	
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049	
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232	
Combined routes, Systemic effects, Long Term		0.353	
Contributing scenario controlling wo filling line, including weighing) (PROC	rker exposure: Transfer of substance or 1 9)	mixture into small containers (dedicated	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602	
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243	
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.116	
Combined routes, Systemic effects, Long Term		0.719	
Contributing scenario controlling worker exposure: Roller application or brushing (PROC10)			
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	3.59 mg/m ³	0.433	
Inhalation, Systemic effects, Acute	3.59 mg/m ³	0.044	
Dermal, Systemic effects, Long Term	5.486 mg/kg bw/day	0.465	
Combined routes, Systemic effects, Long Term		0.897	



Contributing scenario controlling wo	rker exposure: Treatment of articl	es by dipping and pouring (PROC13)	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063	
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01	
Dermal, Systemic effects, Long Term	2.743 mg/kg bw/day	0.232	
Combined routes, Systemic effects, Long Term		0.296	
Contributing scenario controlling wo	rker exposure: Use as laboratory	reagent (PROC15)	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06	
Inhalation, Systemic effects, Acute	2 mg/m ³	0.024	
Dermal, Systemic effects, Long Term	0.34 mg/kg bw/day	0.029	
Combined routes, Systemic effects, Long Term		0.089	
Contributing scenario controlling wo (PROC19)	rker exposure: Hand-mixing with	n intimate contact and only PPE available	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	1.74 mg/m³	0.21	
Inhalation, Systemic effects, Acute	1.74 mg/m ³	0.021	
Dermal, Systemic effects, Long Term	7.072 mg/kg bw/day	0.599	
Combined routes, Systemic effects, Long Term		0.809	
Contributing scenario controlling wo (PROC28)	rker exposure: Manual maintenar	nce (cleaning and repair) of machinery (Solid)	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602	
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243	
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232	
Combined routes, Systemic effects, Long Term		0.835	
Contributing scenario controlling wo dedicated facilities (Liquid) (PROC8b)	rker exposure: Transfer of substa	nce or mixture (charging and discharging) at	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063	
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01	
Dermal, Systemic effects, Long Term	2.743 mg/kg bw/day	0.232	



Combined routes, Systemic effects, Long Term	0.296	
Contributing scenario controlling w (PROC28)	vorker exposure: Manual maintena	nce (cleaning and repair) of machinery (Liquid)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.296
Contributing scenario controlling v non-dedicated facilities (Liquid) (PRC		nce or mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.296
SECTION 4: 4.0 Guidance	to DU to evaluate whether he worl	ks inside the boundaries set by the ES
4.1. Health		
Where other Risk Management Meas managed to at least equivalent levels.	ures/Operational Conditions are adoption of the second s	pted, then users should ensure that risks are
4.2. Environment		
necessary to define appropriate site-sp		blicable to all sites; thus, scaling could be f scaling reveals a condition of unsafe use,

Exposure Scenario 7: Widespread use by professional workers - Use as additive in intumescent coatings

additional RMMs or a site-specific chemical safety assessment is required.

SECTI	ON 1:	1.0 Title of Exposure Scenario:		
		Widespread use by professional workers - Use as additive in intumescent coatings		
Contributing scenario controlling environmental exposure				
CS1	Use as additive in intumescent coatings		ERC8c, ERC8f	
Contributing scenario controlling worker exposure				



Occupa Local e Condit Respira Dermal [Effect Other Place o	exhaust ventilation: No [E tions and measures relat atory protection: No. (Effe l protection: Yes (Chemic iveness dermal: 80%]	ffectiveness inhalation: 0%, Dermal: 0%] ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %) ally resistant gloves conforming to EN374) and (other) appro- tions affecting workers exposure	priate dermal protection
Occupa Local e Condit Respira [Effect Other	exhaust ventilation: No [E tions and measures relat atory protection: No. (Effe l protection: Yes (Chemic iveness dermal: 80%] given operational condit	ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %) ally resistant gloves conforming to EN374) and (other) appro	priate dermal protection
Occupa Local e Condit Respira [Effect Other	exhaust ventilation: No [E tions and measures relat atory protection: No. (Effe l protection: Yes (Chemic iveness dermal: 80%] given operational condit	ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %) ally resistant gloves conforming to EN374) and (other) appro	priate dermal protection
Occupa Local e Condit Respira Dermal [Effect	exhaust ventilation: No [E tions and measures relat atory protection: No. (Effe l protection: Yes (Chemic iveness dermal: 80%]	ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %) ally resistant gloves conforming to EN374) and (other) appro	priate dermal protection
Occupa Local e Condit Respira	exhaust ventilation: No [E tions and measures relat atory protection: No. (Effe	ed to personal protection, hygiene and health evaluation ectiveness inhalation: 0 %)	
Occupa Local e	exhaust ventilation: No [E		
Occupa		ffectiveness inhalation: 0%, Dermal: 0%]	
	ational fleatin and Safety		
Genera	Occupational Health and Safety Management System: Basic		
	General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Technical conditions and measures to control dispersion from source towards the worker			r
Duratio	on of activity: <=8.0 h/day	/	
Amou	nt used, frequency and d	uration of use (or from service life)	
Physica	al form of the used produc	et: Liquid	
Percent	tage (w/w) of substance in	n mixture/article: <= 30 %	
Product (article) characteristic			
2.2		2.2 Mixing or blending in batch processes (PROC5)	,5ui C.
2.2		er flow: >= 1.8E4 m3/day Contributing scenario controlling worker exposure expo	Service -
	-	tions affecting environmental exposure	
	ation of the STP sludge of	-	
-	rge rate of STP: >= $2E3$ r		
	ical STP: Standard [Effec		
Daily local widespread use amount: Not relevant for this material. Conditions and measures related to biological sewage treatment plant			
		luration of use (or from service life)	
	2.1 Use as additive in intumescent coatings (ERC8c, ERC8f)		
2.1	Contributing scenario controlling environmental exposure:		ire:
SECT	ITION 2: 2.0 Conditions of use		
CS9	Manual maintenance (cleaning and repair) of machinery PROC28		PROC28
CS8	Treatment of articles by dipping and pouring PROC13		PROC13
CS7	Non industrial spraying PROC11		
CS6	Roller application or brushing PROC10		
CS5	Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC9		
CS4	facilities Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC8b		
			PROC8a
CS3	Mixing or blending in b	patch processes	PROC5

	2.3 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)			
Product (article) characteristic	Product (article) characteristic			
Percentage (w/w) of substance in	n mixture/article: <= 30 %			
Physical form of the used produc	ct: Liquid			
Amount used, frequency and d	luration of use (or from service life)			
Duration of activity: <=8.0 h/day				
	sures to control dispersion from source towards the worker			
	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)			
Occupational Health and Safety				
	ffectiveness inhalation: 0%, Dermal: 0%]			
Conditions and measures relat	ed to personal protection, hygiene and health evaluation			
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)			
	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection			
	tions affecting workers exposure			
Place of use: Indoor				
Operating temperature: 115 °C				
2.4	Contributing scenario controlling worker exposure exposure:			
	2.4 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)			
Product (article) characteristic	· · · · · · · · · · · · · · · · · · ·			
Percentage (w/w) of substance in	n mixture/article: <= 30 %			
Physical form of the used produc	ct: Liquid			
Amount used, frequency and d	luration of use (or from service life)			
Duration of activity: <=8.0 h/day	ý			
Technical conditions and meas	sures to control dispersion from source towards the worker			
	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)			
Occupational Health and Safety	Management System: Basic			
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]			
Conditions and measures relat	ed to personal protection, hygiene and health evaluation			
Respiratory protection: No. (Eff	ectiveness inhalation: 0 %)			
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection			
	tions affecting workers exposure			
Place of use: Indoor				
Operating temperature: 115 °C				
2.5	Contributing scenario controlling worker exposure exposure: 2.5 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)			



Product	(article)	characteristic
IIVuuci	(al ticle)	char acter istic

Percentage (w/w) of substance in mixture/article: <= 30 %

Physical form of the used product: Liquid

Amount used, frequency and duration of use (or from service life)

Duration of activity: <=8.0 h/day

Technical conditions and measures to control dispersion from source towards the worker

General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)

Occupational Health and Safety Management System: Basic

Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection: No. (Effectiveness inhalation: 0%)

Dermal protection: No. (Effectiveness dermal: 0 %)

Other given operational conditions affecting workers exposure

Place of use: Indoor

2.6

Operating temperature: >115 °C

Contributing scenario controlling worker exposure exposure: 2.6 Roller application or brushing (PROC10)

Product (article) characteristic

Percentage (w/w) of substance in mixture/article: <= 30 %

Physical form of the used product: Liquid

Amount used, frequency and duration of use (or from service life)

Duration of activity: <=8.0 h/day

Technical conditions and measures to control dispersion from source towards the worker

Ventilation working room: General ventilation (mechanical)

Occupational Health and Safety Management System: Basic

Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection: No. (Effectiveness inhalation: 0 %)

Dermal protection: Yes (Chemically resistant gloves conforming to EN374) and (other) appropriate dermal protection [Effectiveness dermal: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

2.7

Operating temperature: >115 °C

Contributing scenario controlling worker exposure exposure: 2.7 Non industrial spraying (PROC11)

Product (article) characteristic

Percentage (w/w) of substance in mixture/article: <= 30 %

Physical form of the used product: Liquid



Amount used, frequency and d	uration of use (or from service life)		
Duration of activity: <=8.0 h/day	7		
Technical conditions and meas	ures to control dispersion from source towards the worker		
Ventilation working room: Gene	ral ventilation (mechanical)		
Occupational Health and Safety	Management System: Basic		
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures relat	ed to personal protection, hygiene and health evaluation		
Respiratory protection: Yes (Res	pirator with APF of 20) Effectiveness inhalation: 95%		
Dermal protection: Yes (Chemic [Effectiveness dermal: 90%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection		
Other given operational condit	ions affecting workers exposure		
Place of use: Indoor			
Operating temperature: >115 °C			
2.8	Contributing scenario controlling worker exposure exposure:		
	2.8 Treatment of articles by dipping and pouring (PROC13)		
Product (article) characteristic			
Percentage (w/w) of substance in	n mixture/article: <= 30 %		
Physical form of the used produc	et: Liquid		
Amount used, frequency and d	uration of use (or from service life)		
Duration of activity: <=8.0 h/day	,		
Technical conditions and meas	ures to control dispersion from source towards the worker		
General ventilation: Basic general	al ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety	Management System: Basic		
Local exhaust ventilation: No [E	ffectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures relat	ed to personal protection, hygiene and health evaluation		
Respiratory protection: No. (Effe	ectiveness inhalation: 0 %)		
Dermal protection: Yes (Chemic [Effectiveness dermal: 80%]	ally resistant gloves conforming to EN374) and (other) appropriate dermal protection		
Other given operational condit	ions affecting workers exposure		
Place of use: Indoor			
Operating temperature: >115 °C			
2.9	Contributing scenario controlling worker exposure exposure: 2.9 Manual maintenance (cleaning and repair) of machinery (PROC28)		
Product (article) characteristic			
Percentage (w/w) of substance in	n mixture/article: <= 30 %		
Physical form of the used product: Liquid			
Amount used, frequency and d	uration of use (or from service life)		
Duration of activity: <=8.0 h/day			
Technical conditions and meas	ures to control dispersion from source towards the worker		



General ventilation: Basic general ven	ntilation (1-3 air changes per hour) (Effecti	iveness inhalation: 0 %)
Occupational Health and Safety Mana		,
Local exhaust ventilation: No [Effect	iveness inhalation: 0%, Dermal: 0%]	
Conditions and measures related to	personal protection, hygiene and health	n evaluation
Respiratory protection: No. (Effective	eness inhalation: 0 %)	
Dermal protection: Yes (Chemically [Effectiveness dermal: 80%]	resistant gloves conforming to EN374) and	(other) appropriate dermal protection
Other given operational conditions	affecting workers exposure	
Place of use: Indoor		
Operating temperature: >115 °C		
SECTION 3:	3.0 Exposure estimation	
3.1. Environment		
Contributing scenario controlling e	nvironmental exposure: Use as additive i	in intumescent coatings (ERC8c, ERC8f)
Release	Release estimation method	Explanations
Water	Estimated release rate	Local release rate: 0 kg/day
Air	Estimated release rate	Local release rate: 0 kg/day
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%
Protection target	Exposure concentration	Risk quantification (RCR)
Fresh water	Local PEC: 5.0E-3 mg/l	0.01
Sedimentation (Fresh water)	Local PEC: 0.128 mg/kg dw	0.01
Marine water	Local PEC: 4.82E-4 mg/l	0.01
Sedimentation (Marine water)	Local PEC: 0.012 mg/kg dw	0.01
Sewage Treatment Plant	Local PEC: 0 mg/l	<0.01
Agricultural soil	Local PEC: 2.82E-11 mg/kg dw	<0.01
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.3E-21 mg/m ³	<0.01
Man via Environment - Oral	Exposure via food consumption: 1.74E-4 mg/kg bw/day	<0.01
Man via Environment - Combined routes		<0.01
3.2. Workers		
Contributing scenario controlling v	worker exposure: Mixing or blending in t	patch processes (PROC5)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.296



Contributing scenario controlling wo non-dedicated facilities (PROC8a)	orker exposure: Transfer of substan	nce or mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	2.743 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.296
Contributing scenario controlling wo dedicated facilities (PROC8b)	rker exposure: Transfer of substar	nce or mixture (charging and discharging) at
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.296
Contributing scenario controlling wo filling line, including weighing) (PROC		nce or mixture into small containers (dedicated
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	6.86 mg/kg bw/day	0.581
Combined routes, Systemic effects, Long Term		0.644
Contributing scenario controlling wo	rker exposure: Roller application	or brushing (PROC10)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	3.61 mg/m ³	0.435
Inhalation, Systemic effects, Acute	3.61 mg/m ³	0.044
Dermal, Systemic effects, Long Term	5.486 mg/kg bw/day	0.465
Combined routes, Systemic effects, Long Term		0.9
Contributing scenario controlling wo	orker exposure: Non industrial spra	aying (PROC11)
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.398 mg/m ³	0.048
Inhalation, Systemic effects, Acute	0.398 mg/m ³	<0.01
Dermal, Systemic effects, Long Term	10.71 mg/kg bw/day	0.908



Combined routes, Systemic effects, Long Term			0.956
Contributing scena	rio controlling wo	rker exposure: Treatment of artic	les by dipping and pouring (PROC13)
Route of exposure a effects	and type of	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic Term	effects, Long	0.525 mg/m ³	0.063
Inhalation, Systemic	effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic ef	fects, Long Term	2.743 mg/kg bw/day	0.232
Combined routes, Sy Long Term	stemic effects,		0.296
Contributing scena (PROC28)	rio controlling wo	rker exposure: Manual maintenar	nce (cleaning and repair) of machinery
Route of exposure and type of effects		Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term		0.525 mg/m ³	0.063
Inhalation, Systemic	effects, Acute	0.525 mg/m ³	<0.01
Dermal, Systemic ef	fects, Long Term	2.743 mg/kg bw/day	0.232
Combined routes, Sy Long Term	stemic effects,		0.296
SECTION 4:	4.0 Guidance to DU to evaluate whether he works inside the boundaries set by the ES		
4.1. Health	,		
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.			pted, then users should ensure that risks are
4.2. Environment			
necessary to define a	appropriate site-spe		blicable to all sites; thus, scaling could be f scaling reveals a condition of unsafe use, l.

additional Rivitvis of a site-specific chemical safety assessment is required.

Exposure Scenario 8: Service life (worker at industrial site) - PU foams - Workers (industrial)

SECTION 1: 1.		1.0 Title of Exposure Scenario:		
	Widespread use by professional workers - Use as additive in intumescent coatin			
Contril	buting scenario controll	ing environmental exposure		
CS1	PU foams - Workers (in	ndustrial)	ERC12a	
Contril	buting scenario controll	ing worker exposure		
CS2	Low energy manipulation of substances bound in materials and/or articles PROC21			
CS3	High (mechanical) energy work-up of substances bound in materials and/or articles PROC24			
SECTI	ON 2:	2.0 Conditions of use		
2.1		Contributing scenario controlling environmental exposur 2.1 PU foams - Workers (industrial) (ERC12a)	re:	
Amount used, frequency and duration of use (or from service life)				
Daily use amount at site: Not relevant for this material.				
Annual	Annual use amount at site: Not relevant for this material.			



Conditions and measures rela	ated to biological sewage treatment plant		
Biological STP: Standard [Effe	ectiveness water: 2.77%]		
Discharge rate of STP: >= 2E3	m3/day		
Application of the STP sludge	on agricultural soil: Yes		
	litions affecting environmental exposure ater flow: $>= 1.8E4 \text{ m3/day}$		
2.2	Contributing scenario controlling worker exposure exposure: 2.2 Low energy manipulation of substances bound in materials and/or articles (PROC21)		
Product (article) characterist	ic		
Percentage (w/w) of substance	in mixture/article: <= 100 %		
Physical form of the used prod	uct: Solid (medium dusty form)		
Amount used, frequency and	duration of use (or from service life)		
Duration of activity: <=8.0 h/d	ay		
Technical conditions and mea	asures to control dispersion from source towards the worker		
General ventilation: Basic gene	eral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safet	y Management System: Advanced		
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]		
Conditions and measures rela	ated to personal protection, hygiene and health evaluation		
Respiratory protection: No. (E	ffectiveness inhalation: 0 %)		
Dermal protection: No. (Effect	iveness dermal: 0 %)		
Other given operational cond	itions affecting workers exposure		
Place of use: Indoor			
2.3	Contributing scenario controlling worker exposure exposure: 2.3 High (mechanical) energy work-up of substances bound in materials and/or articles (PROC24)		
Product (article) characterist	ic		
Percentage (w/w) of substance	in mixture/article: <= 100 %		
Physical form of the used prod	uct: Solid (medium dusty form)		
Amount used, frequency and	duration of use (or from service life)		
Duration of activity: <=8.0 h/d	ay		
Technical conditions and me	asures to control dispersion from source towards the worker		
General ventilation: Basic gene	eral ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)		
Occupational Health and Safety Management System: Advanced			
Local exhaust ventilation: No [Effectiveness inhalation: 0%, Dermal: 0%]			
Conditions and measures rela	ated to personal protection, hygiene and health evaluation		
Respiratory protection: No. (E	ffectiveness inhalation: 0 %)		
Dermal protection: No. (Effect	iveness dermal: 0 %)		
Other given operational cond	litions affecting workers exposure		



Place of use: Indoor				
SECTION 3:	FION 3: 3.0 Exposure estimation			
3.1. Environment				
Contributing scenario controlling	environmental exposure: PU foams - Wor	kers (industrial) (ERC12a)		
Release	Release estimation method	Explanations		
Water	Estimated release rate	Local release rate: 0 kg/day		
Air	Estimated release rate	Local release rate: 0 kg/day		
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%		
Protection target	Exposure concentration	Risk quantification (RCR)		
Fresh water	Local PEC: 5.0E-3 mg/l	0.01		
Sedimentation (Fresh water)	Local PEC: 0.128 mg/kg dw	0.01		
Marine water	Local PEC: 3.87E-4 mg/l	0.01		
Sedimentation (Marine water)	Local PEC: 9.9E-3 mg/kg dw	0.01		
Sewage Treatment Plant	Local PEC: 0 mg/l	<0.01		
Agricultural soil	Local PEC: 2.26E-11 mg/kg dw	<0.01		
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.3E-21 mg/m ³	<0.01		
Man via Environment - Oral	Exposure via food consumption: 1.74E-4 mg/kg bw/day	<0.01		
Man via Environment - Combined routes		<0.01		
3.2. Workers				
Contributing scenario controlling and/or articles (PROC21)	worker exposure: Low energy manipulati	on of substances bound in materials		
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)		
Inhalation, Systemic effects, Long Term	3 mg/m ³	0.361		
Inhalation, Systemic effects, Acute	12 mg/m ³	0.146		
Dermal, Systemic effects, Long Terr	n 2.83 mg/kg bw/day	0.24		
Combined routes, Systemic effects, Long Term		0.601		
Contributing scenario controlling materials and/or articles (PROC24)	worker exposure: High (mechanical) energ	gy work-up of substances bound in		
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)		
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12		
Inhalation, Systemic effects, Acute	4 mg/m ³	0.049		
Dermal, Systemic effects, Long Terr	n 2.83 mg/kg bw/day	0.24		
Combined routes, Systemic effects, Long Term		0.36		
SECTION 4: 4.0 Guidance to DU to evaluate whether he works inside the boundaries set by the ES				



4.1. Health

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

4.2. Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.

Exposure Scenario 9: Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)

SECTI	SECTION 1: 1.0 Title of Exposure Scenario:		
	Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)		
Contri	buting scenario controll	ing environmental exposure	
CS1	Intumescent coatings -	Workers (industrial)	ERC12a
Contri	buting scenario controll	ing worker exposure	
CS2	Low energy manipulati	on of substances bound in materials and/or articles	PROC21
CS3	High (mechanical) ener	gy work-up of substances bound in materials and/or articles	PROC24
SECTI	ON 2:	2.0 Conditions of use	
2.1		Contributing scenario controlling environmental exposur 2.1 Intumescent coatings - Workers (industrial) (ERC12a)	re:
Amour	nt used, frequency and d	uration of use (or from service life)	
Daily u	se amount at site: Not rel	evant for this material.	
Annual	use amount at site: Not r	elevant for this material.	
Condit	ions and measures relat	ed to biological sewage treatment plant	
Biologi	cal STP: Standard [Effec	tiveness water: 2.77%	
Dischar	rge rate of STP: >= 2E3 n	n3/day	
Applica	ation of the STP sludge or	n agricultural soil: Yes	
 Other given operational conditions affecting environmental exposure Receiving surface water flow: >= 1.8E4 m3/day 			
2.2 Contributing scenario controlling worker exposure exposure: 2.2 Low energy manipulation of substances bound in materials and/or articles (PROC21)			
Product (article) characteristic			
Percentage (w/w) of substance in mixture/article: <= 100 %			
Physical form of the used product: Solid (medium dusty form)			
Amount used, frequency and duration of use (or from service life)			



Duration of activity: <=8.0 h/d	ay			
	-	o control dispersion from source towa	rds the worker	
General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)				
Occupational Health and Safety	y Manag	ement System: Advanced		
-		eness inhalation: 0%, Dermal: 0%]		
		ersonal protection, hygiene and heal	th evaluation	
Respiratory protection: No. (Ef				
Dermal protection: No. (Effect				
Other given operational cond				
Place of use: Indoor	nuons a	recting workers exposure		
	Cart	-11		
2.3	2.3 H	ributing scenario controlling worker High (mechanical) energy work-up of su es (PROC24)		
Product (article) characterist	tic			
Percentage (w/w) of substance	in mixtu	re/article: <= 100 %		
Physical form of the used produced	uct: Soli	d (medium dusty form)		
Amount used, frequency and	duratio	n of use (or from service life)		
Duration of activity: <=8.0 h/d	ay			
Technical conditions and mea	asures to	o control dispersion from source towa	rds the worker	
General ventilation: Basic gene	eral venti	lation (1-3 air changes per hour) (Effec	tiveness inhalation: 0 %)	
Occupational Health and Safety	y Manag	ement System: Advanced		
Local exhaust ventilation: No [Effective	eness inhalation: 0%, Dermal: 0%]		
Conditions and measures rela	ated to p	ersonal protection, hygiene and healt	h evaluation	
Respiratory protection: No. (Ef	ffectiven	ess inhalation: 0 %)		
Dermal protection: No. (Effect	iveness c	lermal: 0 %)		
Other given operational cond	litions af	ffecting workers exposure		
Place of use: Indoor				
SECTION 3:	3.	0 Exposure estimation		
3.1. Environment				
Contributing scenario contro	olling env	vironmental exposure: Intumescent co	atings - Workers (industrial) (ERC12a)	
Release		Release estimation method	Explanations	
Water		Estimated release rate	Local release rate: 0 kg/day	
Air		Estimated release rate	Local release rate: 0 kg/day	
Non-Agricultural Soil		Estimated release factor	Release factor after on site RMM: 0%	
Protection target		Exposure concentration	Risk quantification (RCR)	
Fresh water		Local PEC: 5.0E-3 mg/l	0.01	
Sedimentation (Fresh water)		Local PEC: 0.128 mg/kg dw	0.01	
· · · · · · · · · · · · · · · · · · ·				



Sedimentation (Marin	ne water)	Local PEC: 0.012 mg/kg dw	0.01
Sewage Treatment Plant		Local PEC: 0 mg/l	<0.01
Agricultural soil		Local PEC: 2.82E-11 mg/kg dw	<0.01
Man via Environmen (Systemic effects)	t - Inhalation	Concentration in air: 1.3E-21 mg/m ³	<0.01
Man via Environmen	t - Oral	Exposure via food consumption: 1.74E-4 mg/kg bw/day	<0.01
Man via Environmen routes	t - Combined		<0.01
3.2. Workers			
Contributing scenar and/or articles (PROC		rker exposure: Low energy manipulation	on of substances bound in materials
Route of exposure a effects	nd type of	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic Term	effects, Long	3 mg/m ³	0.361
Inhalation, Systemic	effects, Acute	12 mg/m ³	0.146
Dermal, Systemic eff	ects, Long Term	2.83 mg/kg bw/day	0.24
Combined routes, Systemic effects, Long Term			0.601
Contributing scenar materials and/or artic		rker exposure: High (mechanical) energ	gy work-up of substances bound in
Route of exposure a effects	nd type of	Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic Term	effects, Long	1 mg/m ³	0.12
Inhalation, Systemic	effects, Acute	4 mg/m ³	0.049
Dermal, Systemic eff	ects, Long Term	2.83 mg/kg bw/day	0.24
Combined routes, Systemic effects, Long Term			0.36
SECTION 4:	SECTION 4: 4.0 Guidance to DU to evaluate whether he works inside the boundaries set by the ES		de the boundaries set by the ES
4.1. Health			
Where other Risk Ma managed to at least ea		es/Operational Conditions are adopted, th	hen users should ensure that risks are

4.2. Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.



Exposure Scenario 10: Service life (professional worker) - Intumescent coatings - Professional Workers

SECTION 1: 1.0 Title of Exposure Scenario:				
Service life (professional worker) - Intumescent coatings - Professional Workers		rofessional Workers		
Contributing scenario controlling environmental exposure				
CS1	Intumescent coatings - I	Professional Workers	ERC10a, ERC11a	
Contri	buting scenario controlli	ng worker exposure		
CS2 Low energy manipulation of substances bound in materials and/or articles PROC21			PROC21	
SECTI	ON 2:	2.0 Conditions of use		
2.1		Contributing scenario controlling environmental exposur 2.1 Intumescent coatings - Professional Workers (ERC10a, I		
Amour	nt used, frequency and d	uration of use (or from service life)		
Daily lo	ocal widespread use amou	nt: Not relevant for this material.		
Condit	ions and measures relate	ed to biological sewage treatment plant		
Biologi	cal STP: Standard [Effect	iveness water: 2.77%]		
Dischar	rge rate of STP: $\geq 2E3 \text{ m}$	3/day		
Applica	ation of the STP sludge on	agricultural soil: Yes		
Other g		ons affecting environmental exposure r flow: >= 1.8E4 m3/day		
2.2		Contributing scenario controlling worker exposure exposure: 2.2 Low energy manipulation of substances bound in materials and/or articles (PROC21)		
Produc	ct (article) characteristic			
Percentage (w/w) of substance in mixture/article: <= 100 %				
Physica	al form of the used produc	t: Solid (medium dusty form)		
Amour	nt used, frequency and du	uration of use (or from service life)		
Duratio	on of activity: <=8.0 h/day			
Techni	cal conditions and measu	ures to control dispersion from source towards the worker		
General ventilation: Basic general ventilation (1-3 air changes per hour) (Effectiveness inhalation: 0 %)				
Occupa	tional Health and Safety M	Aanagement System: Basic		
Local e	xhaust ventilation: No [Ef	fectiveness inhalation: 0%, Dermal: 0%]		
Condit	ions and measures relate	d to personal protection, hygiene and health evaluation		
Respira	tory protection: No. (Effe	ctiveness inhalation: 0 %)		
Dermal protection: No. (Effectiveness dermal: 0 %)				
Other given operational conditions affecting workers exposure				
Place of use: Indoor				
SECTI	ON 3:	3.0 Exposure estimation		
3.1. En	vironment			
Contri ERC11		ng environmental exposure: Intumescent coatings - Profess	ional Workers (ERC10a,	



Release	Release estimation method	Explanations
Water	Estimated release rate	Local release rate: 0 kg/day
Air	Estimated release rate	Local release rate: 0 kg/day
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%
Protection target	Exposure concentration	Risk quantification (RCR)
Fresh water	Local PEC: 5.0E-3 mg/l	0.01
Sedimentation (Fresh water)	Local PEC: 0.128 mg/kg dw	0.01
Marine water	Local PEC: 4.82E-4 mg/l	0.01
Sedimentation (Marine water)	Local PEC: 0.012 mg/kg dw	0.01
Sewage Treatment Plant	Local PEC: 0 mg/l	<0.01
Agricultural soil	Local PEC: 2.82E-11 mg/kg dw	<0.01
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.3E-21 mg/m ³	<0.01
Man via Environment - Oral	Exposure via food consumption: 1.74E-4 mg/kg bw/day	<0.01
Man via Environment - Combined routes		<0.01
3.2. Workers		
Contributing scenario controlling worker exposure: Low energy manipulation of substances bound in materials and/or articles (PROC21)		
Route of exposure and type of	Exposure concentration	Risk quantification (RCR)

Route of exposure and type of effects		Exposure concentration	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term		5 mg/m ³	0.602
Inhalation, Systemic effects, Acute		20 mg/m ³	0.243
Dermal, Systemic effects, Long Term		2.83 mg/kg bw/day	0.24
Combined routes, Systemic effects, Long Term			0.842
SECTION 4: 4.0 Guidance to DU to evaluate whether he works inside the boundaries set by the ES			e the boundaries set by the ES

4.1. Health

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

4.2. Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.

Exposure Scenario 11: Service l	life (consumers) - PU foams – Consumers

SECTION 1:	1.0 Title of Exposure Scenario:
	Service life (consumers) - PU foams – Consumers
Contributing scenario controlling environmental exposure	



CS1	PU foams – Consumers		ERC10a, ERC11a	
Contri	Contributing scenario controlling worker exposure			
CS2	Use of articles containing (encapsulated)	g foam with the substance embedded in a matr	ix AC13	
SECTI	SECTION 2: 2.0 Conditions of use			
2.1		Contributing scenario controlling environm 2.1 PU foams – Consumers (ERC10a, ERC11	ributing scenario controlling environmental exposure: U foams – Consumers (ERC10a, ERC11a)	
Amoun	nt used, frequency and d	uration of use (or from service life)		
Daily lo	ocal widespread use amou	nt: Not relevant for this material.		
Condit	ions and measures relat	d to biological sewage treatment plant		
Biologi	ical STP: Standard [Effec	veness water: 2.77%]		
Dischar	rge rate of STP: $\geq 2E3$ n	3/day		
Applica	ation of the STP sludge or	agricultural soil: Yes		
Other g		ons affecting environmental exposure : flow: >= 1.8E4 m3/day		
2.2		Contributing scenario controlling worker e 2.2 Use of articles containing foam with the st (encapsulated) (AC13)		
Produc	ct (article) characteristic			
Percent	age (w/w) of substance in	mixture/article: <= 30 % (embedded in the foa	m, contained in the article)	
Exposu	re via inhalation route: In	alation exposure is considered to be not releva	int	
Exposu	re via oral route: Oral exp	osure is considered to be not relevant		
SECTION 3: 3.0 Exposure estimation				
3.1. En	vironment			
Contri	buting scenario controll	ng environmental exposure: PU foams – Con	sumers (ERC10a, ERC11a)	
Release	e	Release estimation method	Explanations	
Water		Estimated release rate	Local release rate: 0 kg/day	
Air		Estimated release rate	Local release rate: 0 kg/day	
Non-Ag	gricultural Soil	Estimated release factor	Release factor after on site RMM: 0%	
Protect	tion target	Exposure concentration	Risk quantification (RCR)	
Fresh w	vater	Local PEC: 5.0E-3 mg/l	0.01	
Sedime	entation (Fresh water)	Local PEC: 0.128 mg/kg dw	0.01	
Marine		Local PEC: 4.82E-4 mg/l	0.01	
Sedime	entation (Marine water)	Local PEC: 0.012 mg/kg dw	0.01	
Sewage	e Treatment Plant	Local PEC: 0 mg/l	<0.01	
Agricultural soil		Local PEC: 2.82E-11 mg/kg dw	<0.01	
Man via Environment - Inhalation (Systemic effects)		Concentration in air: 1.3E-21 mg/m ³	<0.01	
	a Environment - Oral	Exposure via food consumption: 1.74E-4 mg/kg bw/day	<0.01	



Man via Environment - Combined routes		<0.01		
3.2. Workers				
Contributing scenario controlling worker exposure: Use of articles containing foam with the substance embedded in a matrix (encapsulated) (AC13)				
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)		
Inhalation, Systemic effects, Long Term	Negligible (Migration study)	<0.01		
Dermal, Systemic effects, Long Term	0.1484 mg/kg bw/day for a baby, when using additional sheets for mattress protection and comfort (Migration study)	0.035		
	0.06375 mg/kg bw/day for an adult, when using additional sheets for mattress protection and comfort (Migration study)	0.015		
	0.6375 mg/kg bw/day for an adult, when sleeping directly on the mattress cover (Migration study) 1.484 mg/kg bw/day for a baby, when sleeping directly on the mattress cover (Migration study)			
Oral, Systemic effects, Long Term	Negligible (Migration study)	<0.01		
Combined routes, Systemic effects, Long Term		0.035 (for a baby) 0.015 (for an adult)		
SECTION 4: 4.0 Guidance	to DU to evaluate whether he works insid	le the boundaries set by the ES		
4.1. Health				
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.				
4.2. Environment				
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.				

SECTION 1:		1.0 Title of Exposure Scenario:	
		Service life (consumers) - Intumescent coating – Consumers	
Contri	Contributing scenario controlling environmental exposure		
CS1	S1 Intumescent coating - Consumers ERC10a, ERC11a		ERC10a, ERC11a
Contributing scenario controlling worker exposure			
CS2	Use of articles with intumescent coating with the substance embedded in a matrix (encapsulated) AC13		AC13
SECTI	SECTION 2: 2.0 Conditions of use		
2.1		Contributing scenario controlling environmental exposur 2.1 Intumescent coating – Consumers (ERC10a, ERC11a)	re:

Exposure Scenario 12: Service life (consumers) - Intumescent coating – Consumers



Amount used, frequency and dura	ation of use (or from service life)		
Daily local widespread use amount:	Not relevant for this material.		
Conditions and measures related to biological sewage treatment plant			
Biological STP: Standard [Effective	eness water: 2.77%]		
Discharge rate of STP: >= 2E3 m3/	day		
Application of the STP sludge on as	gricultural soil: Yes		
Other given operational condition • Receiving surface water f	as affecting environmental exposure low: >= 1.8E4 m3/day		
2	Contributing scenario controlling worker e 2 Use of articles with intumescent coating wencapsulated) (AC13)		
Product (article) characteristic			
Percentage (w/w) of substance in m	ixture/article: <= 30 % (embedded in a solid	matrix)	
Exposure via inhalation route: Inhal	ation exposure is considered to be not releva	ant	
Exposure via dermal route: Dermal	exposure is considered to be not relevant		
Exposure via oral route: Oral expos	ure is considered to be not relevant		
SECTION 3:	3.0 Exposure estimation		
3.1. Environment			
Contributing scenario controlling	environmental exposure: Intumescent coa	ting – Consumers (ERC10a, ERC11a)	
Release	Release estimation method	Explanations	
Water	Estimated release rate	Local release rate: 0 kg/day	
Air	Estimated release rate	Local release rate: 0 kg/day	
Non-Agricultural Soil	Estimated release factor	Release factor after on site RMM: 0%	
Protection target	Exposure concentration	Risk quantification (RCR)	
Fresh water	Local PEC: 5.0E-3 mg/l	0.01	
Sedimentation (Fresh water)	Local PEC: 0.128 mg/kg dw	0.01	
Marine water	Local PEC: 4.82E-4 mg/l	0.01	
Sedimentation (Marine water)	Local PEC: 0.012 mg/kg dw	0.01	
Sewage Treatment Plant	Local PEC: 0 mg/l	<0.01	
Agricultural soil	Local PEC: 2.82E-11 mg/kg dw	<0.01	
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.3E-21 mg/m ³	<0.01	
Man via Environment - Oral	Exposure via food consumption: 1.74E-4 mg/kg bw/day	<0.01	
Man via Environment - Combined routes		<0.01	
3.2. Workers			
Contributing scenario controlling embedded in a matrix (encapsulated	worker exposure: Use of articles with intu (AC13)	imescent coating with the substance	
Route of exposure and type of effects	Exposure concentration	Risk quantification (RCR)	



Inhalation, Systemic effects, Long Term		0 mg/m ³	<0.01
Dermal, Systemic eff	ects, Long Term	0 mg/kg bw/day	<0.01
Oral, Systemic effects, Long Term		0 mg/kg bw/day	<0.01
Combined routes, Systemic effects, Long Term			<0.01
SECTION 4: 4.0 Guidance to		DU to evaluate whether he works insid	e the boundaries set by the ES
4.1. Health	4.1. Health		
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.			
4.2. Environment			

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling could be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use, additional RMMs or a site-specific chemical safety assessment is required.