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CONFORMITÀ AI REGOLAMENTI CE 1907/2006 (REACH),

1272/2008 (CLP) e 2015/830

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SEZIONE 1: IDENTIFICAZIONE DELLA SOSTANZA/MISCELA E DELLA SOCIETÀ/IMPRESA

1.1 Identificatore del prodotto

Denominazione del prodotto Melammina

Nome chimico 2,4,6-triammino-1,3,5-triazina

Formula chimica C₃H₆N₆ N° CAS 108-78-1 N. CE 203-615-4

N. di registrazione REACH 01-2119485947-16-0017

1.2 Usi pertinenti identificati della sostanza o miscela e usi sconsigliati

Uso/i identificato/i La melammina (C3H6N6) è un prodotto in forma di polvere bianca utilizzato per

la produzione di una vasta gamma di resine sintetiche.

Formulazione o riconfezionamento

Uso come sostanza intermedia per resine (reazione di melammina)

Uso come additivo nelle schiume

Uso come additivo nei rivestimenti intumescenti

Schiume PU - Operai (industria)

Rivestimenti intumescenti - Operai (industria)

Rivestimenti intumescenti - Professionisti specializzati

Usi sconsigliati Aggiunta a prodotti alimentari o mangimi.

1.3 Informazioni sul fornitore della scheda dati di sicurezza

Identificazione della società Qatar Melammina Co P.O. Box 50001, Mesaieed, Indirizzo

Oatar.

Telefono (+974) 44228888 mktg@qafco.com.qa Email

Rappresentante esclusivo di un fabbricante non stabilito nella Comunità

Identificazione della società MUNTAJAT B.V.

Indirizzo Prinses Margrietplantsoen 78-A

> 2595 BR, L'Aia Paesi Bassi

Telefono +31(0)70 219 7000 Email REACH@muntajatbv.com Sito web www.muntajatbv.com

1.4 Numero di telefono di emergenza

Servizio nazionale di informazione sui

veleni (Centro di Birmingham)

+44 (0) 111

Negli USA e in Canada: 1-800-424-9300 In caso di fuoriuscite, perdite, incendi,

esposizione o incidenti, chiamare

Fuori da USA e Canada: +1 703-741-5970 e +1-703-527-3887 (si accettano

CHEMTREC 24h chiamate con addebito al destinatario)

SEZIONE 2: IDENTIFICAZIONE DEI PERICOLI

2.1 Classificazione della sostanza o della miscela

Regolamento (CE) n. 1272/2008 [CLP] Ripr. 2:Sospettato di nuocere alla fertilità

2.2 Elementi dell'etichetta

Etichettatura secondo il regolamento (CE) n. 1272/2008 [CLP]

Denominazione del prodotto Melammina.

Pittogrammi di pericolo



Parole di avvertenza Avvertenza

Indicazioni di pericolo H361f: Sospettato di nuocere alla fertilità

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SCHEDA DEI DATI DI SICUREZZA

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Consigli di prudenza P201: Procurarsi istruzioni specifiche prima dell'uso.

P202: Non manipolare prima di avere letto e compreso tutte le avvertenze. P280: Indossare guanti protettivi/indumenti protettivi/protezioni per gli

occhi/protezioni per il viso.

P308+P313: In caso di esposizione o di possibile esposizione: Consultare un

medico.

P405: Conservare sotto chiave.

P501: Smaltire il contenuto in conformità con la legislazione locale, statale o

nazionale

2.3 Altri pericoli

Può essere dannoso se ingerito.

La polvere può avere un effetto irritante sulla pelle, sugli occhi e sulle vie

respiratorie.

2.4 Ulteriori informazioni

Nessuno.

SEZIONE 3: COMPOSIZIONE/INFORMAZIONI SUGLI INGREDIENTI

3.1 Sostanze

INGREDIENTI	N° CAS	N. CE	%W/W	Indicazioni di pericolo	Pittogrammi di
PERICOLOSI					pericolo
Melammina	108-78-1	203-615-4	≥ 99	Ripr. 2 H361f	GHS08
		01-2119485947-16-0017			

3.2 Miscele

Non applicabile.

SEZIONE 4: MISURE DI PRIMO SOCCORSO

4.1 Descrizione delle misure di pronto soccorso

Inalazione Se la respirazione è difficile, trasportare l'infortunato all'aria aperta e mantenerlo a

riposo in posizione che favorisca la respirazione. Se i sintomi persistono,

consultare un medico.

Contatto con la pelle In caso di contatto con la pelle, lavare immediatamente con abbondante acqua.

Contatto con gli occhi Sciacquare prima con abbondante acqua per alcuni minuti (rimuovere le lenti a

contatto se possibile), poi portarle da un medico

In caso di ingestione, sciacquare la bocca con acqua (solamente se l'infortunato è

cosciente).

4.2 Principali sintomi ed effetti, sia acuti che ritardati

La polvere può avere un effetto irritante sulla pelle, sugli occhi e sulle vie

respiratorie.

4.3 Indicazione dell'immediata necessità di consultare un medico e di trattamenti speciali

In caso di esposizione o di possibile esposizione: Consultare un medico.

SEZIONE 5: MISURE ANTINCENDIO

5.1 Mezzi di estinzione

Mezzi di estinzione idonei Estinguere con anidride carbonica, sostanza chimica secca, schiuma o acqua

nebulizzata.

Mezzi di estinzione non idonei Acqua con getto pieno.

5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela

Si decompone in un incendio che emette fumi tossici: Monossido di carbonio, anidride carbonica, ossidi di azoto. L'ammoniaca viene rilasciata quando la melammina viene riscaldata a temperature superiori a 500°C.

5.3 Raccomandazioni per i pompieri

I vigili del fuoco devono indossare indumenti protettivi completi, compreso

l'autorespiratore.

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SEZIONE 6: MISURE IN CASO DI RILASCIO ACCIDENTALE

6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza

Assicurare un'adeguata ventilazione. Assicurare un'adeguata protezione personale (compresa la protezione delle vie respiratorie) durante la rimozione delle fuoriuscite. Evitare la generazione di polvere. Evitare di respirare la polvere.

6.2 Precauzioni ambientali

Non consentire l'ingresso in canali di scolo, fognature o corsi d'acqua.

6.3 Metodi e materiali per il contenimento e per la bonifica

Spazzare le sostanze versate nei contenitori, se necessario inumidirle prima per evitare che si spolverino. Raccogliere con cura il resto. Non lavare le perdite con acqua, in quanto l'area sarà scivolosa e bloccherà le acque di scarico.

6.4 Riferimenti ad altre sezioni

Si veda anche la sezione 8, 13.

SEZIONE 7: MANIPOLAZIONE E STOCCAGGIO

7.1 Precauzioni per una manipolazione sicura

Procurarsi istruzioni specifiche prima dell'uso. Non manipolare prima di avere letto e compreso tutte le avvertenze. Fornire una ventilazione adeguata. Evitare la generazione di polvere. Evitare di respirare la polvere. Indossare guanti protettivi/indumenti protettivi/protezioni per gli occhi/protezioni per il viso. Lavare accuratamente le mani e la pelle esposta dopo la manipolazione

7.2 Condizioni per uno stoccaggio sicuro, comprese eventuali incompatibilità

Tenere lontano dalla luce diretta del sole. Conservare sotto chiave. Conservare in

luogo asciutto. Tenere il recipiente ben chiuso.

Temperatura di stoccaggio

Conservabilità

Stabile in condizioni normali

Materiali incompatibili Fortemente acido. Agenti ossidanti forti.

Ambiente.

7.3 Usi finali specifici

- Formulazione o riconfezionamento
- Uso come sostanza intermedia per resine (reazione di melammina)
- Uso come additivo nelle schiume
- Uso come additivo nei rivestimenti intumescenti
- Schiume PU Operai (industria)
- Rivestimenti intumescenti Operai (industria)
- Rivestimenti intumescenti Professionisti specializzati

SEZIONE 8: CONTROLLI DELL'ESPOSIZIONE/PROTEZIONE INDIVIDUALE

8.1 Parametri di controllo

8.1.1 Limiti di esposizione professionale

SOSTANZA	N° CAS	LTEL (8 ore	LTEL (8 ore	STEL (ppm)	STEL (mg/m³)	Nota
		TWA ppm)	TWA mg/m³)			
Melammina	108-78-1					Nessuno
						assegnato

Fonte: UK Workplace Exposure Limits EH40/2005 (quarta edizione, pubblicata nel 2020), Regno Unito

8.1.2 Valore limite biologico Non stabilito.

8.1.3 PNEC e DNEL

DNEL / DMEL	Orale	Inalazione	Cutanea
Industria - A lungo termine - Effetti locali			
Industria - A lungo termine - Effetti sistemici		8,3 mg/m ³	11,8 mg/kg p.c./giorno
Industria - Breve termine - Effetti locali			
Industria - Breve termine - Effetti sistemici		82,3 mg/m ³	117 mg/kg p.c./giorno
Consumatore - Lungo termine - Effetti locali			
Consumatore - Lungo termine - Effetti sistemici	0,42 mg/kg p.c./gio	orno 1,5 mg/m³	4.2 mg/kg p.c./giorno

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Consumatore - Breve termine - Effetti locali
Consumatore - Breve termine - Effetti sistemici

Ambiente	PNEC
Comparto acquatico (compresi i sedimenti)	Acqua dolce: 0,51 mg/l
	Rilascio intermittente: 2 mg/l
	Acqua di mare: 0,051 mg/l
	Acqua dolce (sedimento): 2,524 mg/kg dw
	Acqua di mare (sedimento): 0,252 mg/kg dw
Comparto terrestre	Impianto di trattamento delle acque reflue: 200 mg/l
Comparto atmosferico	Suolo: 0,206 mg/kg dw

8.2 Controlli dell'esposizione

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8.2.1. Controlli tecnici idonei Assicurare un'adeguata ventilazione.

8.2.2. Dispositivi di protezione

individuale

Protezione degli occhi Indossare occhiali protettivi (occhiali, visiera o occhiali di sicurezza).

Protezione della pelle Indossare guanti protettivi.

Tempo di rottura del materiale dei guanti: fare riferimento alle informazioni

fornite dal produttore dei guanti

Protezione delle vie respiratorie Indossare una maschera antipolvere approvata se durante la manipolazione si

genera polvere.

Altri pericoli Non applicabile.

8.2.3. Controlli dell'esposizione Non consentire l'ingresso in canali di scolo, fognature o corsi d'acqua.

ambientale

SEZIONE 9: PROPRIETÀ FISICHE E CHIMICHE

9.1 Informazioni sulle proprietà fisiche e chimiche di base

Aspetto Polvere.

Colore: Bianco.

Odore Inodore. Soglia olfattiva Non stabilito.

pH 7,5-8,5 (soluzione acquosa), 20 g/l @ 20°C

Punto di fusione/punto di congelamento 354°C (Non congela, solidifica) Punto di ebollizione iniziale e intervallo >354°C (Sublimazione)

di ebollizione

Punto di infiammabilità Non applicabile.
Tasso di evaporazione Non applicabile.
Infiammabilità (solido, gas) Non infiammabile.
Limiti superiori/inferiori di Non disponibile.

infiammabilità o di esplosività

Pressione di vapore 4,7 x 1,0E-8 Pa @ 20°C

Densità di vapore Non applicabile.
Densità (g/ml) 1570 kg/m³
Densità relativa 1,57

Solubilità Solubilità (acqua): Leggermente solubile: 3,48 g/l @ 20°C

Solubilità (Altro): Molto leggermente solubile: Acetone (0,3 g/l), Etanolo (0.6 g/l), Dimetilformammide (0,1 g/l), Solubile: Soluzione cellulare etilica (11,2 g/l) @

30°C

Coefficiente di ripartizione: n-

ottanolo/acqua

-1,22 @ 20°C

Temperatura di autoignizione >500°C Temperatura di decomposizione (°C) >354°C

Viscosità Non applicabile.
Proprietà esplosive Non esplosivo.
Proprietà ossidanti Non ossidante.

9.2 Altre informazioni

Costante di dissociazione 6,7 pKa @ 20°C Peso molecolare 126,12 g/mol

SEZIONE 10: STABILITÀ E REATTIVITÀ

10.1 Reattività

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Stabile in condizioni normali

10.2 Stabilità chimica

Stabile in condizioni normali

10.3 Possibilità di reazioni pericolose

Non sono note reazioni pericolose se utilizzato per lo scopo previsto.

10.4 Condizioni da evitare

Mantenere al riparo dall'umidità.

10.5 Materiali incompatibili

Fortemente acido. Agenti ossidanti forti.

10.6 Prodotti di decomposizione pericolosi

Nessun prodotto di decomposizione pericoloso noto.

SEZIONE 11: INFORMAZIONI TOSSICOLOGICHE

11.1 Informazioni sugli effetti tossicologici

Tossicità acuta - Ingestione Può essere dannoso se ingerito.

LD50 (ratto): 3161 mg/kg

Tossicità acuta - Contatto con la pelle

Bassa tossicità acuta.

Tossicità acuta - Inalazione

Bassa tossicità acuta.

LC50 (ratto): >5190 mg/m³

Corrosione/irritazione della pelle Gravi lesioni/irritazioni oculari

Non classificato. Non classificato.

Dati sulla sensibilizzazione della pelle

Non è un sensibilizzante della pelle.

Dati sulla sensibilizzazione delle vie

Non classificato.

respiratorie

Non vi è alcuna prova di potenziale mutageno.

Mutagenicità sulle cellule germinali Cancerogenicità

Non classificabile per quanto riguarda la sua cancerogenicità per l'uomo.

LOAEL (orale): 126 mg/kg p.c./giorno (cronico, ratto, vescica).

Aumenti statisticamente significativi dell'incidenza del carcinoma a cellule transizionali e dell'incidenza combinata di carcinoma a cellule transizionali e papilloma nella vescica urinaria sono stati osservati nei ratti maschi esposti a 4500 ppm di melammina (circa 263 mg/kg di peso corporeo al giorno), ma non quando esposti a 2250 ppm di melammina. Con un'eccezione, sono stati osservati calcoli alla vescica nei ratti maschi che avevano carcinomi a cellule transizionali. Le femmine di ratti non hanno sviluppato tumori anche se esposte fino a 9000 ppm. Nessun risultato neoplastico relativo al trattamento è stato osservato in topi maschi

o femmine. Non provato per gli esseri umani.

Tossicità per la riproduzione Sospettato di danneggiare la fertilità nei ratti maschi.

NOAEL (orale): 89 mg/kg p.c./giorno (subcronico, 168 ore/settimana ratto). Effetti negativi sul sistema riproduttivo maschile sono stati rilevati in un EOGRTS

eseguito secondo il TG 443 dell'OCSE nei ratti, a seguito della decisione

dell'ECHA numero TPE-D-2114373433-50-01. Degenerazione tubolare /atrofia nel testicolo è stata osservata con relativi minimi detriti cellulari in epididimo in F0 e F1 maschi. Inoltre, è stato osservato un aumento delle anomalie dello sperma (capo

staccato) nei maschi F0 e F1.

Nessuno previsto. Allattamento STOT - esposizione singola Non classificato. Non classificato.

STOT - esposizione ripetuta Pericolo in caso di aspirazione

Nessuno previsto.

11.2 Altre informazioni

La polvere può avere un effetto irritante sulla pelle, sugli occhi e sulle vie

respiratorie.

SEZIONE 12: INFORMAZIONI ECOLOGICHE

12.1 Tossicità

Bassa tossicità per gli organismi acquatici

LC50 (Daphnia magna): 200 mg/l Acuto

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Cronico NOEC (ciprinide (Pimephales promelas)): 5.1 mg/l

NOEC (Daphnia magna): 11 mg/l

Alghe EC50 Acqua dolce: 325 mg/l NOEC Acqua dolce: 98 mg/l

12.2 Persistenza e degradabilità

Questa sostanza non è facilmente biodegradabile. Si ritiene che non sia

intrinsecamente biodegradabile.

12.3 Potenziale di bioaccumulo

La sostanza non ha alcun potenziale di bioaccumulo. Fattore di bioconcentrazione (BCF): 3,8 L/kg ww

12.4 Mobilità nel suolo

Si prevede che la sostanza abbia una moderata mobilità nel suolo.

12.5 Risultati della valutazione PBT e vPvB

Non classificato come PBT o vPvB

12.6 Altri effetti negativi

Ignoti.

SEZIONE 13: CONSIDERAZIONI SULLO SMALTIMENTO

13.1 Metodi di trattamento dei rifiuti

Smaltire i contenitori vuoti e i rifiuti in modo sicuro. Recuperare o riciclare se

possibile.

13.2 Ulteriori informazioni

Lo smaltimento deve essere conforme alla legislazione locale, statale o nazionale.

SEZIONE 14: INFORMAZIONI SUL TRASPORTO

Non classificato come pericoloso per il trasporto.

14.1 Numero ONU

Non applicabile

14.2 Nome di spedizione dell'ONU

Non applicabile

14.3 Classi di pericolo per il trasporto

Non applicabile

14.4 Gruppo di imballaggio

Non applicabile

14.5 Pericolosità ambientale

Non classificato come inquinante marino.

14.6 Precauzioni speciali per gli utenti

Non note

14.7 Trasporto alla rinfusa secondo la Convenzione MARPOL (Allegato II) e il Codice IBC

Ignoto

SEZIONE 15: INFORMAZIONE SULLE NORMATIVE

15.1 Norme e leggi su sicurezza, salute e ambiente specifiche per la sostanza o la miscela

Regolamenti europei - Autorizzazioni e/o restrizioni d'uso Elenco di sostanze ad altissimo rischio Non indicato

candidate all'autorizzazione

REACH: ALLEGATO XIV elenco delle Non indicato

sostanze soggette ad autorizzazione

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REACH: Allegato XVII - Restrizioni in Non indicato

materia di fabbricazione, immissione sul

mercato e uso di talune sostanze, preparati e articoli pericolosi

Piano d'azione a rotazione a livello

comunitario (CoRAP)

Regolamento (CE) n. 850/2004 del

Parlamento europeo e del Consiglio relativo agli inquinanti organici

persistenti

Regolamento (CE) N. 2037/2000 sulle

sostanze che riducono lo strato di ozono

Regolamento (UE) n. 649/2012 del Parlamento europeo e del Consiglio sull'esportazione ed importazione di sostanze chimiche pericolose Non indicato

Non indicato

Non indicato

Non indicato

Regolamentazioni nazionali

Stato inventariale Elencato in: Australia, Canada (DSL), Cina, Giappone, Corea, Taiwan, Nuova

Zelanda (HSNO) - Approvazione HSNO: HSR002503, Nuova Zelanda (NZIoC),

Filippine.

15.2 Valutazione della sicurezza chimica

È stata effettuata una valutazione della sicurezza chimica REACH.

SEZIONE 16:ALTRE INFORMAZIONI

Le seguenti sezioni contengono revisioni o nuove dichiarazioni: 1-16

LEGENDA

Pittogrammi di pericolo



Classificazione di pericolosità Ripr. 2 : Tossicità per la riproduzione, Categoria 2DOCVARIABLE

GMSDS0000000000000504 * MERGEFORMAT

Indicazioni di pericolo H361f: Sospettato di nuocere alla fertilità

Consigli di prudenza P201: Procurarsi istruzioni specifiche prima dell'uso.

P202: Non manipolare prima di avere letto e compreso tutte le avvertenze. P280: Indossare guanti protettivi/indumenti protettivi/protezioni per gli

occhi/protezioni per il viso.

P308+P313: In caso di esposizione o di possibile esposizione: Consultare un

medico.

P405: Conservare sotto chiave.

P501: Smaltire il contenuto in conformità con la legislazione locale, statale o

nazionale

Sigle CAS: Chemical Abstracts Number (Numero di estratto chimico)

CLP: Regolamento (CE) n. 1272/2008 relativo alla classificazione, all'etichettatura

e all'imballaggio delle sostanze e delle miscele

DNEL: Derived No Effect Level (Livello derivato senza effetto)

CE: Comunità Europea

LTEL: Long-term exposure limit (Limite di esposizione a lungo termine)

PBT: Persistente, bioaccumulabile e tossico

PNEC: Predicted No Effect Concentration (prevedibile concentrazione senza

effetti)

REACH: Registration, Evaluation, Authorisation and restriction of Chemicals (Registrazione, valutazione, autorizzazione e restrizione delle sostanze chimiche)

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STEL: Short term exposure limit (valore limite per brevi esposizioni)

STOT: Specific Target Organ Toxicity (Tossicità specifica per organi bersaglio) vPvB: very Persistent and very Bioaccumulative (molto persistente e molto

bioaccumulabile)

Esclusioni di responsabilità

Le informazioni contenute in questa pubblicazione o fornite in altro modo agli utenti sono ritenute accurate e fornite in buona fede, ma spetta agli utenti accertarsi dell'idoneità del prodotto per il proprio scopo specifico.

Qatar Melamine Co non fornisce alcuna garanzia in merito all'idoneità del prodotto per qualsiasi scopo particolare e qualsiasi garanzia o condizione implicita (legale o di altro tipo) è esclusa, tranne nella misura in cui l'esclusione è impedita dalla legge.

Qatar Melamine Co non si assume alcuna responsabilità per perdite o danni (diversi da quelli derivanti dalla morte o da lesioni personali causate da prodotti difettosi, se dimostrati), derivanti dall'affidamento di tali informazioni. Non si può presumere la libertà di brevetti, copyright e design.

Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}\,9$ - 75

Melammina

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1.	Exposure Scenario	1: Formulation	or re-packing - Formulati	on or re-packaging
	L'Aposui e Sectiui io	1. I or manarion	of it packing formulati	on or re packaging

1.	Exposure Scenario 1:	Formulation or re-packing - Formulation or re-packaging	
SECTI	ON 1:	Title of exposure scenario	
		Formulation or re-packaging	
Contril	buting scenario controlli	ng environmental exposure	
CS1	Formulation or re-packa	nging	ERC2
Contril	buting scenario controlli	ng worker exposure	
CS2		refinery in closed continuous process with occasional processes with equivalent containment conditions	PROC2
CS3		tion in the chemical industry in closed batch processes with processes with equivalent containment conditions	PROC3
CS4	Chemical production wh	nere opportunity for exposure arises	PROC4
CS5	Mixing or blending in b	atch processes	PROC5
CS6	Transfer of substance or facilities	mixture (charging and discharging) at non-dedicated	PROC8a
CS7	Transfer of substance or	mixture (charging and discharging) at dedicated facilities	PROC8b
CS8	Transfer of substance or including weighing)	mixture into small containers (dedicated filling line,	PROC9
CS9	Tabletting, compression	, extrusion, pelletisation, granulation	PROC14
CS10	Use as laboratory reager	nt	PROC15
CS11	Hand-mixing with intim	ate contact and only PPE available	PROC19
CS12	Manual maintenance (cl	eaning and repair) of machinery	PROC28
SECTI	ON 2:	Conditions of use	
2.1		Contributing scenario controlling environmental exposur 1.1 Formulation or re-packaging (ERC 2)	e:
Amoun	nt used, frequency and du	uration of use (or from service life)	
		vant for the assessment as scenario specific releases are estimate evant for the assessment as scenario specific releases are estimate.	
Conditi	ons and measures related t	to biological sewage treatment plant	
Dischar	cal STP: Standard [Effecting rate of STP: >= 2E3 mution of the STP sludge on	3/day	
Other g	given operational conditi	ons affecting environmental exposure	
Receivi	ng surface water flow: >=	1.8E4 m3/day	
2.2		Contributing scenario controlling worker exposure: 1.2 Chemical production or refinery in closed continuous pro controlled exposure or processes with equivalent containmen	
Produc	et characteristics		
	age (w/w) of substance in al form of the used product	mixture/article: <= 100 % :: Solid (medium dusty form)	
Freque	ncy and duration of use		
Duratio	on of activity: <= 8 h/day		
Technic	cal conditions and measu	res to control dispersion from source towards the worker	
Occupa	tional Health and Safety N	l ventilation (1-3 air changes per hour) [Effectiveness, Inhalation Management System: Advanced fectiveness, Inhalation: 0%, Dermal: 0%]	on: 0%]
Conditi	ions and measures relate	d to personal protection, hygiene and health evaluation	

Respiratory protection: No [Effectiveness, Inhalation: 0%] Dermal protection: No [Effectiveness, Dermal: 0%]

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Other given operational conditi	ons affecting workers exposure
Place of use: Indoor Operating temperature: <= 40 °C	
2.3	Contributing scenario controlling worker exposure: 1.3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3)
Product characteristics	
Percentage (w/w) of substance in Physical form of the used product	
Frequency and duration of use	
Duration of activity: <= 8 h/day	
Technical conditions and measu	res to control dispersion from source towards the worker
Occupational Health and Safety M	l ventilation (1-3 air changes per hour) [Effectiveness, Inhalation: 0%] Anagement System: Advanced fectiveness, Inhalation: 0%, Dermal: 0%]
Conditions and measures relate	d to personal protection, hygiene and health evaluation
Respiratory protection: No [Effective Dermal protection: No [Effective	
Other given operational conditi	ons affecting workers exposure
Place of use: Indoor Operating temperature: <= 40 °C	
2.4	Contributing scenario controlling worker exposure: 1.4 Chemical production where opportunity for exposure arises (PROC 4)
Product characteristics	
Percentage (w/w) of substance in Physical form of the used product	
Frequency and duration of use	
Duration of activity: <= 8 h/day	
Technical conditions and measu	res to control dispersion from source towards the worker
Occupational Health and Safety M	l ventilation (1-3 air changes per hour) [Effectiveness, Inhalation: 0%] Management System: Advanced fectiveness, Inhalation: 0%, Dermal: 0%]
Conditions and measures relate	d to personal protection, hygiene and health evaluation
Respiratory protection: No [Effective Dermal protection: No [Effective	
Other given operational conditi	ons affecting workers exposure
Place of use: Indoor Operating temperature: <= 40 °C	
2.5	Contributing scenario controlling worker exposure: 1.5 Mixing or blending in batch processes (PROC 5)
Product characteristics	
Percentage (w/w) of substance in Physical form of the used product	
Frequency and duration of use	
Duration of activity: <- 8 h/day	

Duration of activity: <= 8 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

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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 Operating temperature: <= 40 °C 2.6 Contributing scenario controlling worker exposure: 1.6 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use Duration of activity: <= 8 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: 80%] Other given operational conditions affecting workers exposure Place of use: Indoor Operating temperature: <= 40 °C 2.7 Contributing scenario controlling worker exposure: 1.7 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.8	Contributing scenario controlling worker exposure:
	1.8 Transfer of substance or mixture into small containers (dedicated filling line,
	including weighing) (PROC 9)

Product characteristics

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Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.9

Contributing scenario controlling worker exposure:

1.9 Tabletting, compression, extrusion, pelletisation, granulation (PROC 14)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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%]

Place of use: Indoor

Operating temperature: <= 40 °C

2.10

Contributing scenario controlling worker exposure:

1.10 Use as laboratory reagent (PROC 15)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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%]

Dermal protection: No [Effectiveness, Dermal: 0%]

2.11 Contributing scenario controlling worker exposure: 1.11 Hand-mixing with intimate contact and only PPE available (PROC 19)

Product characteristics

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

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

Frequency and duration of use

Duration of activity: <= 8 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 with specific activity training) and (other)

appropriate dermal protection [Effectiveness, Dermal: 95%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.12 Contributing scenario controlling worker exposure:

1.12 Manual maintenance (cleaning and repair) of machinery (PROC 28)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: $<= 40 \, ^{\circ}\text{C}$

SECTION 3: 1.13 Exposure estimation

3.1. Environment

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: 0.255 mg/l	0.5
Sedimentation (Fresh water)	Local PEC: 1.26 mg/kg dw	0.5
Marine water	Local PEC: 0.0255 mg/l	0.5
Sedimentation (Marine water)	Local PEC: 0.126 mg/kg dw	0.5
Sewage Treatment Plant	Local PEC: 2.496 mg/l	0.01
Agricultural soil	Local PEC: 0.029 mg/kg dw	0.14
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 7.8E-5 mg/m ³	< 0.01

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Man via Environment - Oral	Exposure via food consumption: 0.017 mg/kg bw/day	0.04
Man via Environment - Combined routes		0.04
3.2. Worker		
Contributing scenario controlling worker exposu occasional controlled exposure or processes with ec		
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m³	0.06
Inhalation, Systemic effects, Acute	2 mg/m³	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 worker exposus batch processes with occasional controlled exposure		
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m³	0.12
Inhalation, Systemic effects, Acute	4 mg/m³	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 worker expos 4)	ure: Chemical production where oppor	tunity for exposure arises (PROC
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	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 expos	ure: Mixing or blending in batch proce	sses (PROC 5)
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 worker expos non-dedicated facilities (PROC 8a)	ure: Transfer of substance or mixture (charging and discharging) at
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 worker expos non-dedicated facilities (PROC 8b)	ure: Transfer of substance or mixture (charging and discharging) at
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m³	0.049
Dermal, Systemic effects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects, Long Term		0.353

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Contributing scenario controlling worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9)			
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic	c effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic	c effects, Acute	20 mg/m³	0.243
Dermal, Systemic e	ffects, Long Term	1.372 mg/kg bw/day	0.116
Combined routes, S	ystemic effects, Long Term		0.719
Contributing scena (PROC 14)	ario controlling worker exposu	re: Tabletting, compression, extrusion	n, pelletisation, granulation
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic	c effects, Long Term	1 mg/m³	0.12
Inhalation, Systemic	c effects, Acute	4 mg/m³	0.049
Dermal, Systemic e	ffects, Long Term	3.43 mg/kg bw/day	0.291
Combined routes, S	ystemic effects, Long Term		0.411
Contributing scena	ario controlling worker exposu	re: Use as laboratory reagent (PROC	15)
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic	c effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic	c effects, Acute	2 mg/m³	0.024
Dermal, Systemic e	ffects, Long Term	0.34 mg/kg bw/day	0.029
Combined routes, S	ystemic effects, Long Term		0.089
Contributing scena	rio controlling worker exposu	re: Hand-mixing with intimate contact	et and only PPE available (PROC
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic	c effects, Long Term	3 mg/m³	0.361
Inhalation, Systemic	c effects, Acute	20 mg/m³	0.243
Dermal, Systemic e	ffects, Long Term	7.072 mg/kg bw/day	0.599
Combined routes, S	ystemic effects, Long Term		0.961
Contributing scena	rio controlling worker exposu	re: Manual maintenance (cleaning an	d repair) of machinery (PROC 28)
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic	c effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute		20 mg/m³	0.243
Dermal, Systemic e	ffects, Long Term	2.742 mg/kg bw/day	0.232
Combined routes, S	ystemic effects, Long Term		0.835
SECTION 4:	1.14 Guidance to DU to eval	luate whether he works inside the b	oundaries set by the ES
Remarks on exposur	e data from external estimation	tools:	

ECETOC TRA Workers 3.1:

Explanation: The exposure estimates for PROC 8a are used, as TRA Workers cannot predict exposure for PROC 28 and these estimates can be considered suitable for estimating exposures during manual maintenance.

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2. Exposure Scenario 2: Use at industrial sites - Use as intermediate for resins (reacted melamine)

SECTI	*	Use at industrial sites - Use as intermediate for resins (reac Title of exposure scenario	
		Use at industrial sites - Use as intermediate for resins (rea	acted melamine)
Contril	outing scenario controlli	ng environmental exposure	·
CS1	<u> </u>	resins (reacted melamine)	ERC6a, ERC6c
Contril	outing scenario controlli	ng worker exposure	
CS2		refinery in closed process without likelihood of exposure or nt containment conditions	PROC1
CS3		refinery in closed continuous process with occasional processes with equivalent containment conditions	PROC2
CS4		tion in the chemical industry in closed batch processes with chosure or processes with equivalent containment conditions	PROC3
CS5	Chemical production wl	here opportunity for exposure arises	PROC4
CS6	Mixing or blending in b	atch processes	PROC5
CS7	Calendering operations		PROC6
CS8	Transfer of substance or facilities	mixture (charging and discharging) at non-dedicated	PROC8a
CS9	Transfer of substance or	mixture (charging and discharging) at dedicated facilities	PROC8b
CS10			PROC9
CS11	Tabletting, compression	, extrusion, pelletisation, granulation	PROC14
CS12	Use as laboratory reagent		PROC15
CS13	Manual maintenance (cleaning and repair) of machinery		PROC28
SECTI	ON 2:	Conditions of use	
2.1		Contributing scenario controlling environmental exposur 2.1 Use as intermediate for resins (reacted melamine) (ERC 6	
Amoun	t used, frequency and du	uration of use (or from service life)	
		vant for the assessment as scenario specific releases are estimate levant for the assessment as scenario specific releases are estimated to the assessment as scenario specific releases are estimated to the state of the state	
Conditi	ons and measures related	to biological sewage treatment plant	
Dischar	cal STP: Standard [Effecting rate of STP: >= 2E3 multion of the STP sludge on	3/day	
		ons affecting environmental exposure	
	ng surface water flow: >=		
2.2		Contributing scenario controlling worker exposure: 2.2 Chemical production or refinery in closed process without processes with equivalent containment conditions (PROC 1)	t likelihood of exposure or
Produc	t characteristics		
		mixture/article: <= 100 % :: Solid (medium dusty form)	
Freque	ncy and duration of use		
Duratio	n of activity: <= 8 h/day		
Techni	cal conditions and measu	rres to control dispersion from source towards the worker	
Occupa	tional Health and Safety N	l ventilation (1-3 air changes per hour) [Effectiveness, Inhalational Management System: Advanced fectiveness, Inhalation: 0%, Dermal: 0%]	on: 0%]
		d to personal protection, hygiene and health evaluation	

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Melammina

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: <= 40 °C

2.3 Contributing scenario controlling worker exposure:
2.3 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: <= 40 °C

2.4 Contributing scenario controlling worker exposure:
2.4 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: <= 40 °C

2.5 Contributing scenario controlling worker exposure:
2.5 Chemical production where opportunity for exposure arises (PROC 4)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 h/day

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Melammina

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

Contributing scenario controlling worker exposure: 2.6 Mixing or blending in batch processes (PROC 5)

[Effectiveness, Dermal: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C 2.6

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.7 Contributing scenario controlling worker exposure: 2.7 Calendering operations (PROC 6)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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 with basic employee training) and (other)

appropriate dermal protection [Effectiveness, Dermal: 90%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.8 Contributing scenario controlling worker exposure:

2.8 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a)

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Melammina

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: \leq 40 °C

Contributing scenario controlling worker exposure:

2.9 Transfer of substance or mixture (charging and discharging) at dedicated facilities

(PROC 8b)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.10

Contributing scenario controlling worker exposure:

2.10 Transfer of substance or mixture into small containers (dedicated filling line,

including weighing) (PROC 9)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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

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Melammina

[Effectiveness, Dermal: 80%]

Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.11

Contributing scenario controlling worker exposure:

2.11 Tabletting, compression, extrusion, pelletisation, granulation (PROC 14)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: <= 40 °C

2 12

Contributing scenario controlling worker exposure:

2.12 Use as laboratory reagent (PROC 15)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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: \neq 40 °C

2.13

Contributing scenario controlling worker exposure:

2.13 Manual maintenance (cleaning and repair) of machinery (PROC 28)

Product characteristics

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

Frequency and duration of use

Duration of activity: <= 8 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%]

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Melammina

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

Operating temperature: \leq 40 °C

SECTION 3:	2.14 Exposure estimation			
3.1. Environment				
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: 0.155 mg/l	0.3
Sedimentation (Fresh water)	Local PEC: 1.26 mg/kg dw	0.3
Marine water	Local PEC: 0.0255 mg/l	0.3
Sedimentation (Marine water)	Local PEC: 0.126 mg/kg dw	0.3
Sewage Treatment Plant	Local PEC: 2.496 mg/l	< 0.01
Agricultural soil	Local PEC: 0.029 mg/kg dw	0.08
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 7.8E-5 mg/m³	< 0.01
Man via Environment - Oral	Exposure via food consumption: 0.017 mg/kg bw/day	0.04
Man via Environment - Combined routes		0.02

3.2. Worker

Contributing scenario controlling worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC 1)

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.01 mg/m³	< 0.01
Inhalation, Systemic effects, Acute	0.04 mg/m³	< 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 worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m³	0.06
Inhalation, Systemic effects, Acute	2 mg/m³	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 worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3)

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m³	0.049
Dermal, Systemic effects, Long Term	0.69 mg/kg bw/day	0.058

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Melammina

Combined routes, Systemic effects, Long Term		0.179
Contributing scenario controlling worker expos	sure: Chemical production where oppor	ortunity for exposure arises (PROC
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 expos	sure: Mixing or blending in batch proc	esses (PROC 5)
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	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 worker expos	sure: Calendering operations (PROC 6	<u>(</u>)
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 worker exposinon-dedicated facilities (PROC 8a)	sure: Transfer of substance or mixture	(charging and discharging) at
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 worker exposinon-dedicated facilities (PROC 8b)	sure: Transfer of substance or mixture	(charging and discharging) at
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m³	0.12
Inhalation, Systemic effects, Acute	4 mg/m³	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 worker exposibiling line, including weighing) (PROC 9)	sure: Transfer of substance or mixture	into small containers (dedicated
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	0.243
D 10 + 10 + T	1 272 / / / /	0.116
Dermal, Systemic effects, Long Term	1.372 mg/kg bw/day	0.110
Combined routes, Systemic effects, Long Term	1.372 mg/kg bw/day	0.719
		0.719
Combined routes, Systemic effects, Long Term Contributing scenario controlling worker expos		0.719

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Melammina

Inhalation, Systemic effects, Acute		4 mg/m³	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	worker exposu	re: Use as laboratory reagent (PROC 15	5)
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long 7	Гегт	0.5 mg/m³	0.06
Inhalation, Systemic effects, Acute	Inhalation, Systemic effects, Acute		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 worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC 28)			
Exposure route		Exposure estimate - Worker	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: 2.15 Guidance to the ES		to DU to evaluate whether he works	inside the boundaries set by
Remarks on exposure data from external estimation tools: ECETOC TRA Workers 3.1:			

Explanation: The exposure estimates for PROC 8a are used, as TRA Workers cannot predict exposure for PROC 28 and these estimates can be considered suitable for estimating exposures during manual maintenance.

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Melammina

3. Exposure Scenario 3: Use at industrial sites - Use of resins with unreacted residual melamine

3. Exposure Scenario 3: Use at industrial sites - Use of resins with unreacted residual melamine SECTION 1: Title of exposure scenario						
~~~~	Use at industrial sites - Use of resins with unreacted residual melamine					
Contril	Contributing scenario controlling environmental exposure					
CS1	Use of resins with unrea		ERC5			
	outing scenario controlli					
CS2	Industrial spraying	6	PROC7			
CS3		mixture (charging and discharging) at non-dedicated	PROC8a			
	facilities					
CS4	Transfer of substance or	mixture (charging and discharging) at dedicated facilities	PROC8b			
CS5	Roller application or bru	ashing	PROC10			
CS6	Hand-mixing with intim	ate contact and only PPE available	PROC19			
CS7	Manual maintenance (cl	eaning and repair) of machinery	PROC28			
SECTION	ON 2:	Conditions of use				
2.1	2.1 Contributing scenario controlling environmental exposure: 3.1 Use of resins with unreacted residual melamine (ERC 5)					
Amoun	t used, frequency and du	uration of use (or from service life)				
		vant for the assessment as scenario specific releases are estimate evant for the assessment as scenario specific releases are estimated as scenarios a				
Condition	ons and measures related t	to biological sewage treatment plant				
	cal STP: Standard [Effecti					
	ge rate of STP: >= 2E3 m tion of the STP sludge on					
		ons affecting environmental exposure				
_	ng surface water flow: >=					
2.2	ing surface water now. >=	Contributing scenario controlling worker exposure:				
2.2		3.2 Industrial spraying (PROC 7)				
Produc	t characteristics					
Percentage (w/w) of substance in mixture/article: <= 5 % Physical form of the used product: Liquid						
Freque	ncy and duration of use					
Duration of activity: <= 8 h/day						
Technic	cal conditions and measu	res to control dispersion from source towards the worker				
Ventilation working room: General ventilation (mechanical) Occupational Health and Safety Management System: Advanced Local exhaust ventilation: No [Effectiveness, Inhalation: 0%, Dermal: 0%]						
Conditi	ions and measures relate	d 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 g	given operational conditi	ons affecting workers exposure				
	Place of use: Indoor Operating temperature: <= 40 °C					
2.3		Contributing scenario controlling worker exposure:  3.3 Transfer of substance or mixture (charging and discharging striking (DDOC 82))	ng) at non-dedicated			
Dec. 3	A ala ama ak a dada	facilities (PROC 8a)				
Product characteristics  Departure of (v//v) of substance in minture (article) <= 5.0/						
Percenta	Percentage (w/w) of substance in mixture/article: <= 5 %					

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### Melammina

Physical form of the used product: Liquid Frequency and duration of use Duration of activity: <= 8 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:  $\leq$  40 °C 2.4 Contributing scenario controlling worker exposure: 3.4 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 5 % Physical form of the used product: Liquid Frequency and duration of use Duration of activity: <= 8 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: <= 40 °C Contributing scenario controlling worker exposure: 3.5 Roller application or brushing (PROC 10) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 5 % Physical form of the used product: Liquid Frequency and duration of use Duration of activity: <= 8 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: 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

Contributing scenario controlling worker exposure:

Operating temperature: <= 40 °C

2.6

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}\,29$ - 75

# Melammina

		Melammina			
	3.6 Hand-mixing	with intimate contact and on	ly PPE ava	lable (PROC 19)	
Product characteristics					
	rcentage (w/w) of substance in mixture/article: <= 5 % ysical form of the used product: Liquid				
Frequency and duration of use	requency and duration of use				
Duration of activity: <= 8 h/day	uration of activity: <= 8 h/day				
Technical conditions and measu	echnical conditions and measures to control dispersion from source towards the worker				
Occupational Health and Safety M	entilation working room: General ventilation (mechanical) ccupational Health and Safety Management System: Advanced ocal 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 condition	ons affecting work	ers exposure			
Place of use: Indoor Operating temperature: <= 40 °C					
2.7		nario controlling worker e enance (cleaning and repair)		ery (PROC 28)	
Product characteristics					
	Percentage (w/w) of substance in mixture/article: <= 5 % Physical form of the used product: Liquid				
Frequency and duration of use					
Duration of activity: <= 8 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: <= 40 °C					
SECTION 3:	3.8 Exposure	estimation			
3.1. Environment					
Release	Release estin	mation method	Explanat	ions	
Water	Estimated re	lease rate	Local rele	ase rate: 0.5 kg/day	
Air	Estimated re	ease rate Local rele		ase rate: 0 kg/day	
Non-Agricultural Soil	Estimated re	lease factor	Release fa	actor after on-site RMM: 0%	
Protection target		Exposure concentration		Risk quantification (RCR)	
Fresh water		Local PEC: 0.03 mg/l		0.06	
Sedimentation (Fresh water)		Local PEC: 0.148 mg/kg dw 0		0.06	
Marine water		Local PEC: 3E-3 mg/l		0.06	
a 11					

Local PEC: 0.015 mg/kg dw

Local PEC: 2.2E-3 mg/kg dw

Local PEC: 0.25 mg/l

0.06

0.01

< 0.01

Sedimentation (Marine water)

Sewage Treatment Plant

Agricultural soil

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}$ 30 - 75

# Melammina

Man via Environment - Inhalation (Systemic effects)	Concentration in air: 9.8E-16 mg/m³	< 0.01				
Man via Environment - Oral	Exposure via food consumption: 1.09E-3 mg/kg bw/day	< 0.01				
Man via Environment - Combined routes		< 0.01				
3.2. Worker						
Contributing scenario controlling worker exposure: Industrial spraying (PROC 7)						
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term	2.43 mg/m³	0.293				
Inhalation, Systemic effects, Acute	2.43 mg/m³	0.03				
Dermal, Systemic effects, Long Term	1.714 mg/kg bw/day	0.145				
Combined routes, Systemic effects, Long Term		0.438				
Contributing scenario controlling worker exposu non-dedicated facilities (PROC 8a)	Contributing scenario controlling worker exposure: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a)					
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term	0.105 mg/m ³	0.013				
Inhalation, Systemic effects, Acute	$0.105 \text{ mg/m}^3$	< 0.01				
Dermal, Systemic effects, Long Term	2.74 mg/kg bw/day	0.232				
Combined routes, Systemic effects, Long Term		0.245				
Contributing scenario controlling worker exposure: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8b)						
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term	0.105 mg/m ³	0.013				
Inhalation, Systemic effects, Acute	0.105 mg/m ³	< 0.01				
Dermal, Systemic effects, Long Term	2.74 mg/kg bw/day	0.232				
Combined routes, Systemic effects, Long Term		0.245				
Contributing scenario controlling worker exposu	re: Roller application or brushing (PRO	OC 10)				
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term	1.1 mg/m ³	0.133				
Inhalation, Systemic effects, Acute	1.1 mg/m ³	0.013				
Dermal, Systemic effects, Long Term	5.486 mg/kg bw/day	0.465				
Combined routes, Systemic effects, Long Term		0.597				
Contributing scenario controlling worker exposure: Hand-mixing with intimate contact and only PPE available (PROC 19)						
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term	0.53 mg/m³	0.064				
Inhalation, Systemic effects, Acute	0.53 mg/m³	< 0.01				
Dermal, Systemic effects, Long Term	5.657 mg/kg bw/day	0.479				
Combined routes, Systemic effects, Long Term		0.543				
Contributing scenario controlling worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC 28)						
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term	0.105 mg/m³	0.013				
Inhalation, Systemic effects, Acute	0.105 mg/m³	< 0.01				
Dermal, Systemic effects, Long Term	2.74 mg/kg bw/day	0.232				
Combined routes, Systemic effects, Long Term		0.245				

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### Melammina

SECTION 4:	3.9 Guidance to DU to evaluate whether he works inside the boundaries set by
	the ES

### Remarks on exposure data from external estimation tools:

Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids at high pressure resulting in substantial generation of mist or spray/haze
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source
- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): Yes
- Regular inspection and maintenance (at least monthly): Yes
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes

The concentration that can be inhaled by the worker during the task due to the activity undertaken is obtained. As the task is performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

#### ECETOC TRA Workers 3.1:

Explanation: As solid is used as value for CSA, while liquid is used, it is considered appropriate to refine the exposure estimates, using the standalone version of TRA Workers (v3.1). The vapour pressure at operating temperature (40°C) used for the calculation is 3.71E-8 Pa (as calculated by Chesar).

## Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids on large surfaces or large work pieces
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source
- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): Yes
- Regular inspection and maintenance (at least monthly): Yes
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes

The concentration that can be inhaled by the worker during the task due to the activity undertaken is obtained. As the task is performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

### Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids using low pressure, low speed or on medium-sized surfaces
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source
- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): Yes
- Regular inspection and maintenance (at least monthly): Yes
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes

The concentration that can be inhaled by the worker during the task due to the activity undertaken is obtained. As the task is performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

## ECETOC TRA Workers 3.1:

Explanation: The exposure estimates for PROC 8a are used, as TRA Workers cannot predict exposure for PROC 28 and these estimates can be considered suitable for estimating exposures during manual maintenance. The exposure estimates are calculated for using a liquid, with the standalone version of TRA Workers (v3.1). The vapour pressure at operating

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# Melammina

temperature ( $40^{\circ}$ C) used for the calculation is 3.71E-8 Pa (as calculated by Chesar).

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# Melammina

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

melamine salt (reacted melamine)					
SECTI	SECTION 1: Title of exposure scenario				
	Use at industrial sites - Use as intermediate for the production of other substance.g. melamine salt (reacted melamine)				
Contril	Contributing scenario controlling environmental exposure				
CS1	Use as intermediate for the production of other substances e.g. melamine salt (reacted melamine)				
Contril	buting scenario controlli	ng worker exposure			
CS2	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  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 wh	nere opportunity for exposure arises	PROC4		
CS6	Mixing or blending in batch processes		PROC5		
CS7	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  PROC8a		PROC8a		
CS8	Transfer of substance or mixture (charging and discharging) at dedicated facilitie		PROC8b		
CS9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  PROC9		PROC9		
CS10	Use as laboratory reagent PROC15		PROC15		
CS11	Manual maintenance (cl	eaning and repair) of machinery	PROC28		
SECTI	ON 2:	Conditions of use			
2.1	Contributing scenario controlling environmental exposure: 4.1 Use as intermediate for the production of other substances e.g. melamine salt (reacted melamine) (ERC 6a)				
Amoun	nt used, frequency and du	uration of use (or from service life)			
		vant for the assessment as scenario specific releases are estimate evant for the assessment as scenario specific releases are estimate.			
Conditi	ons and measures related t	o biological sewage treatment plant			
Dischar	cal STP: Standard [Effecti rge rate of STP: >= 2E3 m ation of the STP sludge on	3/day			
Other given operational conditions affecting environmental exposure					
Receiving surface water flow: >= 1.8E4 m3/day					
2.2		Contributing scenario controlling worker exposure: 4.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC 1)			
Produc	t characteristics				
		mixture/article: <= 100 % : Solid (medium dusty form)			
Frequency and duration of use					
Duratio	Duration of activity: <= 8 h/day				
Technic	cal conditions and measu	res 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%]					

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### Melammina

## 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: <= 40 °C

2.3

## Contributing scenario controlling worker exposure:

4.3 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

## **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

#### Frequency and duration of use

Duration of activity: <= 8 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: <= 40 °C

2.4

## Contributing scenario controlling worker exposure:

4.4 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3)

## **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

## Frequency and duration of use

Duration of activity: <= 8 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: <= 40 °C

2.5

## Contributing scenario controlling worker exposure:

4.5 Chemical production where opportunity for exposure arises (PROC 4)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

## Frequency and duration of use

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## Melammina

Duration of activity: <= 8 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: 80%]

## Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.6

# **Contributing scenario controlling worker exposure:** 4.6 Mixing or blending in batch processes (PROC 5)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

#### Frequency and duration of use

Duration of activity: <= 8 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: 80%]

## Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.7

## Contributing scenario controlling worker exposure:

4.7 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

## Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

## 2.8 Contributing scenario controlling worker exposure:

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### Melammina

4.8 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use Duration of activity: <= 8 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: 80%] Other given operational conditions affecting workers exposure Place of use: Indoor Operating temperature: <= 40 °C Contributing scenario controlling worker exposure: 4.9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use Duration of activity: <= 8 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: 80%] Other given operational conditions affecting workers exposure Place of use: Indoor Operating temperature: <= 40 °C Contributing scenario controlling worker exposure: 4.10 Use as laboratory reagent (PROC 15) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use

Duration of activity:  $\le$  8 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

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#### Melammina

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: <= 40 °C

2.11 Contribut

Contributing scenario controlling worker exposure: 4.11 Manual maintenance (cleaning and repair) of machinery (PROC 28)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

#### Frequency and duration of use

Duration of activity: <= 8 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%]

4.12 Exposure estimation

Estimated release factor

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

Non-Agricultural Soil

**SECTION 3:** 

Operating temperature: <= 40 °C

3.1. Environment		
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

Release factor after on-site RMM: 0%

Protection target	Exposure concentration	Risk quantification (RCR)
Fresh water	Local PEC: 0.155 mg/l	0.3
Sedimentation (Fresh water)	Local PEC: 0.766 mg/kg dw	0.3
Marine water	Local PEC: 0.0155 mg/l	0.3
Sedimentation (Marine water)	Local PEC: 0.077 mg/kg dw	0.3
Sewage Treatment Plant	Local PEC: 1.497 mg/l	< 0.01
Agricultural soil	Local PEC: 0.02917 mg/kg dw	0.08
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 3.97E-5 mg/m³	< 0.01
Man via Environment - Oral	Exposure via food consumption: 9.7E-3 mg/kg bw/day	0.02
Man via Environment – Combined routes		0.02

# 3.2. Worker

**Contributing scenario controlling worker exposure:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC 1)

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.01 mg/m ³	< 0.01
Inhalation, Systemic effects, Acute	0.04 mg/m³	< 0.01

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Dermal, Systemic effects, Long Term	0.034 mg/kg bw/day	< 0.01
Combined routes, Systemic effects, Long Term		< 0.01
Contributing scenario controlling worker exposu occasional controlled exposure or processes with ex-		
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	$0.5 \text{ mg/m}^3$	0.06
Inhalation, Systemic effects, Acute	2 mg/m³	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 worker exposus batch processes with occasional controlled exposure		
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m³	0.12
Inhalation, Systemic effects, Acute	4 mg/m³	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 worker expos	ure: Chemical production where oppo	ortunity for exposure arises (PROC
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 expos	ure: Mixing or blending in batch proc	esses (PROC 5)
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 worker expos non-dedicated facilities (PROC 8a)	ure: Transfer of substance or mixture	(charging and discharging) at
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 worker expos non-dedicated facilities (PROC 8b)	ure: Transfer of substance or mixture	(charging and discharging) at
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m³	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 worker exposibiling line, including weighing) (PROC 9)	ure: Transfer of substance or mixture	into small containers (dedicated

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# Melammina

Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long T	'erm	5 mg/m³	0.602
Inhalation, Systemic effects, Acute		20 mg/m³	0.243
Dermal, Systemic effects, Long Terr	n	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects, l	Long Term		0.719
Contributing scenario controlling	worker exposu	re: Use as laboratory reagent (PROC 1	5)
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long T	'erm	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute		2 mg/m³	0.024
Dermal, Systemic effects, Long Terr	n	0.34 mg/kg bw/day	0.029
Combined routes, Systemic effects, Long Term			0.089
Contributing scenario controlling worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC			repair) of machinery (PROC 28)
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term		5 mg/m³	0.602
Inhalation, Systemic effects, Acute		20 mg/m³	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:	4.13 Guidance the ES	to DU to evaluate whether he works	inside the boundaries set by
Remarks on exposure data from exter	rnal estimation t	ools:	

ECETOC TRA Workers 3.1

Explanation: The exposure estimates for PROC 8a are used, as TRA Workers cannot predict exposure for PROC 28 and these estimates can be considered suitable for estimating exposures during manual maintenance.

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# Melammina

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

5. SECTION		Use at industrial sites - Use as additive in foams  Title of exposure scenario			
becii	0111.	Use at industrial sites - Use as additive in foams			
Contrib	nuting scenario controlli	ng environmental exposure			
CS1	Use as additive in foams		ERC5		
	outing scenario controlli		Error		
CS2	Chemical production or	refinery in closed process without likelihood of exposure or at containment conditions	PROC1		
CS3	Chemical production or	refinery in closed continuous process with occasional processes with equivalent containment conditions	PROC2		
CS4		tion in the chemical industry in closed batch processes with posure or processes with equivalent containment conditions	PROC3		
CS5	Chemical production wh	nere opportunity for exposure arises	PROC4		
CS6	Mixing or blending in ba	atch processes	PROC5		
CS7	Transfer of substance or facilities	mixture (charging and discharging) at non-dedicated	PROC8a		
CS8	Transfer of substance or	mixture (charging and discharging) at dedicated facilities	PROC8b		
CS9	Transfer of substance or including weighing)	mixture into small containers (dedicated filling line,	PROC9		
CS10	Use as laboratory reager	nt	PROC15		
CS11	Hand-mixing with intim	ate contact and only PPE available	PROC19		
CS12	Manual maintenance (cl	eaning and repair) of machinery	PROC28		
Subseq	uent service life exposur	e scenario(s):			
ES8	Service life (worker at in	ndustrial site) - PU foams - Workers (industrial)			
ES11	Service life (consumers)	- PU foams – Consumers			
SECTI	ECTION 2: Conditions of use				
2.1	2.1 Contributing scenario controlling environmental exposure: 5.1 Use as additive in foams (ERC 5)				
Amoun	Amount used, frequency and duration of use (or from service life)				
Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated					
Conditions and measures related to biological sewage treatment plant					
Biological STP: Standard [Effectiveness, Water: 0.169%] 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	2.2 Contributing scenario controlling worker exposure: 5.2 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC 1)				
Product characteristics					
Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)					
Frequency and duration of use					
Duration of activity: <= 8 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					

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#### Melammina

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: <= 40 °C 2.3 Contributing scenario controlling worker exposure: 5.3 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use Duration of activity: <= 8 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: <= 40 °C 2.4 Contributing scenario controlling worker exposure: 5.4 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use Duration of activity: <= 8 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: <= 40 °C 2.5 Contributing scenario controlling worker exposure: 5.5 Chemical production where opportunity for exposure arises (PROC 4) **Product characteristics** 

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

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#### Melammina

## Frequency and duration of use

Duration of activity: <= 8 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: 80%]

### Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.6 Contributing scenario controlling worker exposure: 5.6 Mixing or blending in batch processes (PROC 5)

## **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

#### Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.7 Contributing scenario controlling worker exposure:
5.7 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

# Frequency and duration of use

Duration of activity: <= 8 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: 80%]

## Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

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#### Melammina

2.8 Contributing scenario controlling worker exposure: 5.8 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use Duration of activity: <= 8 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: 80%] Other given operational conditions affecting workers exposure Place of use: Indoor Operating temperature: <= 40 °C 2.9 Contributing scenario controlling worker exposure: 5.9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use Duration of activity: <= 8 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: 80%] Other given operational conditions affecting workers exposure Place of use: Indoor Operating temperature: <= 40 °C 2.10 Contributing scenario controlling worker exposure: 5.10 Use as laboratory reagent (PROC 15) **Product characteristics** Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form) Frequency and duration of use Duration of activity: <= 8 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

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#### Melammina

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:  $\neq$  40 °C

2.11 Contributing scenario controlling worker exposure:
5.11 Hand-mixing with intimate contact and only PPE available (PROC 19)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

### Frequency and duration of use

Duration of activity: <= 4 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 with specific activity training) and (other)

appropriate dermal protection [Effectiveness, Dermal: 95%]

## Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.12 Contributing scenario controlling worker exposure:
5.12 Manual maintenance (cleaning and repair) of machinery (PROC 28)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

## Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

SECTION 3:	5.13 Exposure	5.13 Exposure estimation		
3.1. Environment				
Release	Release estin	nation method	Explanat	ions
Water	Estimated rel	Estimated release rate		ease rate: 3 kg/day
Air	Estimated rel	Estimated release rate		ease rate: 0.5 kg/day
Non-Agricultural Soil	Estimated rel	Estimated release factor		actor after on-site RMM: 0%
Protection target Exposure concentration		Exposure concentration		Risk quantification (RCR)

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# Melammina

Fresh water	Local PEC: 0.155 mg/l	0.3
Sedimentation (Fresh water)	Local PEC: 0.766 mg/kg dw	0.3
Marine water	Local PEC: 0.0155 mg/l	0.3
Sedimentation (Marine water)	Local PEC: 0.077 mg/kg dw	0.3
Sewage Treatment Plant	Local PEC: 1.497 mg/l	< 0.01
Agricultural soil	Local PEC: 0.017 mg/kg dw	0.08
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 3.971E-5 mg/m³	< 0.01
Man via Environment - Oral	Exposure via food consumption: 9.7E-3 mg/kg bw/day	0.02
Man via Environment – Combined routes		0.02
3.2. Worker		
Contributing scenario controlling worker exposu likelihood of exposure or processes with equivalent		closed process without
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.01 mg/m³	< 0.01
Inhalation, Systemic effects, Acute	0.04 mg/m³	< 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 worker exposu occasional controlled exposure or processes with eq		
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute	2 mg/m³	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 worker exposubatch processes with occasional controlled exposure		
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m³	0.12
Inhalation, Systemic effects, Acute	4 mg/m³	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 worker exposu	ire: Chemical production where oppor	tunity for exposure arises (PRO
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 exposu	ire: Mixing or blending in batch proce	esses (PROC 5)
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	0.602
Inhalation, Systemic effects, Acute	20 mg/m ³	0.243
<u> </u>	+	+

2.742 mg/kg bw/day

0.232

Dermal, Systemic effects, Long Term

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G 1: 1	T 70		0.025
Combined routes, Systemic effects,	-		0.835
non-dedicated facilities (PROC 8a)	worker exposu	re: Transfer of substance or mixture	(charging and discharging) at
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long	Гегт	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute		20 mg/m³	0.243
Dermal, Systemic effects, Long Ter	rm	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects,	Long Term		0.835
Contributing scenario controlling non-dedicated facilities (PROC 8b)		re: Transfer of substance or mixture	(charging and discharging) at
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long	Гегт	1 mg/m³	0.12
Inhalation, Systemic effects, Acute		4 mg/m³	0.049
Dermal, Systemic effects, Long Ter	rm	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects,	Long Term		0.353
Contributing scenario controlling filling line, including weighing) (PI		re: Transfer of substance or mixture	into small containers (dedicated
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long	Гегт	5 mg/m³	0.602
Inhalation, Systemic effects, Acute		20 mg/m³	0.243
Dermal, Systemic effects, Long Ter	m	1.372 mg/kg bw/day	0.116
Combined routes, Systemic effects,	Long Term		0.719
Contributing scenario controlling	worker exposu	re: Use as laboratory reagent (PROC	C 15)
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long	Гегт	0.5 mg/m ³	0.06
Inhalation, Systemic effects, Acute		2 mg/m³	0.024
Dermal, Systemic effects, Long Ter	rm	0.34 mg/kg bw/day	0.029
Combined routes, Systemic effects,	Long Term		0.089
Contributing scenario controlling 19)	worker exposu	re: Hand-mixing with intimate conta	act and only PPE available (PROC
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long	Гегт	3 mg/m³	0.361
Inhalation, Systemic effects, Acute		20 mg/m³	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	worker exposu	e: Manual maintenance (cleaning ar	nd repair) of machinery (PROC 28)
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long	Гегт	5 mg/m³	0.602
Inhalation, Systemic effects, Acute		20 mg/m³	0.243
Dermal, Systemic effects, Long Ter	m	2.742 mg/kg bw/day	0.232
Combined routes, Systemic effects,	Long Term		0.835
SECTION 4:	5.14 Guidance the ES	to DU to evaluate whether he wor	ks inside the boundaries set by
Remarks on exposure data from extended ECETOC TRA Workers 3.1:	ernal estimation t	ools:	

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Explanation: The exposure estimates for PROC 8a are used, as TRA Workers cannot predict exposure for PROC 28 and these estimates can be considered suitable for estimating exposures during manual maintenance.

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# Melammina

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

Use at industrial sites - Use as additive in intumescent coatings   Contributing scenario controlling environmental exposure		Title of exposure scenario	SECTION 1:		
Contributing scenario controlling environmental exposure  CS1 Use as additive in intumescent coatings  Contributing scenario controlling worker exposure  CS2 Manufacture or formulation in the chemical industry in closed batch processes with equivalent containment conditions occasional controlled exposure or processes with equivalent containment conditions  CS3 Chemical production where opportunity for exposure arises  PROC4  Mixing or blending in batch processes  Industrial spraying with 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 facilities  CS8 Transfer of substance or mixture (charging and discharging) at dedicated facilities  CS9 Transfer of substance or mixture (charging and discharging) at dedicated facilities  PROC8  CS9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  CS10 Roller application or brushing  PROC10  CS11 Treatment of articles by dipping and pouring  PROC13  CS12 Use as laboratory reagent  CS12 Use as laboratory reagent  CS13 Hand-mixing with intimate contact and only PPE available  PROC19  CS14 Manual maintenance (cleaning and repair) of machinery  PROC28  Subsequent service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  ES10 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES11 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Int	cent coatings	-			
CS1 Use as additive in intumescent coatings  Contributing scenario controlling worker exposure  CS2 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions  CS3 Chemical production where opportunity for exposure arises  PROC4  Mixing or blending in batch processes  CS5 Industrial spraying with Local Exhaust Ventilation (LEV)  PROC7  CS6 Industrial spraying with Local Exhaust Ventilation (LEV)  PROC7  CS6 Industrial spraying with Local Exhaust Ventilation (LEV)  PROC8 facilities  CS8 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  CS8 Transfer of substance or mixture (charging and discharging) at dedicated facilities  PROC8 facilities  CS9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  CS10 Roller application or brushing  PROC10  CS11 Treatment of articles by dipping and pouring  PROC13  CS12 Use as laboratory reagent  PROC15  CS14 Manual maintenance (cleaning and repair) of machinery  PROC28  Subscutual service life exposure scenario(s):  ES9 Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  Service life (professional worker) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ESCITION 2:  Contributing scenario controlling environmental exposure:  6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated  Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated  Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%]  Discharge rate of STP: >= 2E3 m3/day  Application of the STP sludge on agricultural soil: Yes  Contributing sc	·		Contributing scenario controlli		
Contributing scenario controlling worker exposure  CS2   Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions  CS3   Chemical production where opportunity for exposure arises   PROC4    CS4   Mixing or blending in batch processes   PROC5    CS5   Industrial spraying with Local Exhaust Ventilation (LEV)   PROC7    CS6   Industrial spraying with Local Exhaust Ventilation (LEV)   PROC7    CS7   Transfer of substance or mixture (charging and discharging) at non-dedicated facilities   PROC8a   facilities   PROC8a    CS8   Transfer of substance or mixture (charging and discharging) at dedicated facilities   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   PROC28    Subsequent service life exposure scenario(s):  ES9   Service life (worker at industrial site) - Intumescent coatings - Professional Workers    ES12   Service life (consumers) - Intumescent coatings - Professional Workers    ES12   Service life (consumers) - Intumescent coating environmental exposure:    ES12   Service life (consumers) - Intumescent coating environmental exposure:    ES12   Service life (consumers) - Intumescent coating environmental exposure:    ES13   Service life (consumers) - Intumescent coating service relates are estimated    Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated    Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated    Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated    Conditions and measures related to biological sewage treatment plant    Biological STP: Standard [Effectiveness, Water 0.169%]    Disch	ERC5				
CS2 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions  CS3 Chemical production where opportunity for exposure arises  CS4 Mixing or blending in batch processes  PROC5  CS5 Industrial spraying with Local Exhaust Ventilation (LEV)  PROC7  CS6 Industrial spraying with Local Exhaust Ventilation (LEV)  PROC7  CS7 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  CS8 Transfer of substance or mixture (charging and discharging) at dedicated facilities  PROC8a facilities  CS9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  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  PROC28  Subsequent service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  ES10 Service life (worker at industrial site) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coating - Consumers  SECTION 2:  Conditions of use  Contributing scenario controlling environmental exposure:  6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%]  Discharge rate of STP: >= 2E3 m3/day  Product characteristics  Product characteri		<del>-</del>			
CS3 Chemical production where opportunity for exposure arises PROC4  CS4 Mixing or blending in batch processes PROC5  CS5 Industrial spraying with 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 facilities PROC8a facilities  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)  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 PROC28  Subsequent service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  ES10 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coating - Professional Workers  ESCTION 2: Contributing scenario controlling environmental exposures  6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated  Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated  Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%]  Discharge rate of STP: >= 2E3 m3/day  Application of the STP sludge on agricultural soil: Yes  Other given operational conditions affecting environmental exposure:  6.2 Manufacture or formulation in the chemical industry in closed batch proceeding controlled exposure or processes with equivalent containment concepts of the processional controlled exposure or processes with equivalent containment concepts of the process		ulation in the chemical industry in closed batch processes with	CS2 Manufacture or formula		
CS4 Mixing or blending in batch processes  CS5 Industrial spraying with 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 facilities  CS8 Transfer of substance or mixture (charging and discharging) at dedicated facilities  PROC8a facilities  CS9 Transfer of substance or mixture into small containers (dedicated facilities  PROC8b  CS9 Transfer of substance or mixture into small containers (dedicated facilities  PROC9c  CS10 Roller application or brushing  PROC10  CS11 Treatment of articles by dipping and pouring  CS12 Use as laboratory reagent  PROC13  CS12 Use as laboratory reagent  PROC15  CS14 Manual maintenance (cleaning and repair) of machinery  PROC28  Subsequent service life exposure scenario(s):  ES9 Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  ES10 Service life (consumers) - Intumescent coatings - Professional Workers  ESCCTION 2:  Conditions of use  Contributing scenario controlling environmental exposure: 6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated  Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated  Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%]  Discharge rate of STP: >= 223 m3/day  Application of the STP sludge on agricultural soil: Yes  Other given operational conditions affecting environmental exposure  6.2 Manufacture or formulation in the chemical industry in closed batch proceeds and controlled exposure or processes with equivalent containment concepts of the STP sludge on agricultural soil: Yes  Other given operational conditions affecting environmental exposure  Product characteristics  Percentage (w/w) of					
CS5 Industrial spraying with 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 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 facilities PROC8b CS9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) 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 PROC28 CS15 Hand-mixing with intimate contact and only PPE available PROC19 CS14 Manual maintenance (cleaning and repair) of machinery PROC28 CS2 Service life (professional worker) - Intumescent coatings - Workers (industrial) CS10 Service life (professional worker) - Intumescent coatings - Professional Workers CS10 Service life (consumers) - Intumescent coating - Consumers  COnditions of use  COnditions of use  Contributing scenario controlling environmental exposure: 6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life) Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%] Discharge rate of STP: >= 2E3 m3/day Application of the STP sludge on agricultural soil: Yes  Other given operational conditions affecting environmental exposure  6.2 Manufacture or formulation in the chemical industry in closed batch proc occasional controlled exposure or processes with equivalent containment conc (PROC 3)  Produc	PROC5		1		
CS6 Industrial spraying without Local Exhaust Ventilation (LEV) PROC7 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) 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 PROC28 Subsequent service life exposure scenario(s): ES9 Service life (worker at industrial site) - Intumescent coatings - Workers (industrial) ES10 Service life (consumers) - Intumescent coatings - Professional Workers ES12 Service life (consumers) - Intumescent coating - Consumers  SECTION 2: Conditions of use  Conditions of use  Contributing scenario controlling environmental exposure: 6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life) Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%] Discharge rate of STP: -2E3 m3/day Application of the STP sludge on agricultural soil: Yes  Other given operational conditions affecting environmental exposure 6.2 Manufacture or formulation in the chemical industry in closed batch proce occasional controlled exposure or processes with equivalent containment concepts of the processes of the proces	PROC7	•	0 0		
CS7 Transfer of substance or mixture (charging and discharging) at non-dedicated 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 including weighing)  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  PROC28  Subsequent service life exposure scenario(s):  ES9 Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  ES10 Service life (professional worker) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coating - Consumers  SECTION 2:  Contributing scenario controlling environmental exposure:  6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated  Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated  Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%]  Discharge rate of STP: >= 2E3 m3/day  Application of the STP sludge on agricultural soil: Yes  Other given operational conditions affecting environmental exposure  6.2 Manufacture or formulation in the chemical industry in closed batch proc occasional controlled exposure or processes with equivalent containment concepts of the same of the used product: Solid (medium dusty form)	PROC7				
CS9   Transfer of substance or mixture into small containers (dedicated filling line, including weighing)   PROC10   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   PROC28   Subsequent service life exposure scenario(s): ES9   Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)   ES10   Service life (professional worker) - Intumescent coatings - Professional Workers   ES12   Service life (consumers) - Intumescent coating - Consumers   ESCTION 2:   Conditions of use    2.1   Contributing scenario controlling environmental exposure: 6.1 Use as additive in intumescent coatings (ERC 5)    Amount used, frequency and duration of use (or from service life)   Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Conditions and measures related to biological sewage treatment plant   Biological STP: Standard [Effectiveness, Water: 0.169%] Discharge rate of STP: >= 2E3 m3/day   Application of the STP sludge on agricultural soil: Yes   Other given operational conditions affecting environmental exposure   6.2 Manufacture or formulation in the chemical industry in closed batch proce occasional controlled exposure or processes with equivalent containment concepts of STP. Standard [Effectiveness, Water: 0.169%] Product characteristics   Percentage (w/w) of substance in mixture/article: <= 100 %   Phys	PROC8a		CS7 Transfer of substance of		
CS10   Roller application or brushing   PROC10	ties PROC8b	or mixture (charging and discharging) at dedicated facilities	CS8 Transfer of substance of		
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 PROC28  Subsequent service life exposure scenario(s):  ES9 Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  ES10 Service life (professional worker) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coating - Consumers  SECTION 2: Conditions of use  2.1 Contributing scenario controlling environmental exposure: 6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%]  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: 6.2 Manufacture or formulation in the chemical industry in closed batch proceous coasional controlled exposure or processes with equivalent containment concepts of the company of the substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)	PROC9	e or mixture into small containers (dedicated filling line,			
CS12 Use as laboratory reagent  CS13 Hand-mixing with intimate contact and only PPE available  PROC19  PROC28  Subsequent service life exposure scenario(s):  ES9 Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  ES10 Service life (professional worker) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coatings - Professional Workers  ES13 Service life (consumers) - Intumescent coatings - Consumers  ECTION 2: Conditions of use  2.1 Contributing scenario controlling environmental exposure: 6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated  Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated  Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%]  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: 6.2 Manufacture or formulation in the chemical industry in closed batch proce occasional controlled exposure or processes with equivalent containment concepts of the controlled exposure or processes with equivalent containment concepts of the used product: Solid (medium dusty form)	PROC10	brushing	CS10 Roller application or br		
CS13   Hand-mixing with intimate contact and only PPE available   PROC19   CS14   Manual maintenance (cleaning and repair) of machinery   PROC28    Subsequent service life exposure scenario(s):  ES9   Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)   ES10   Service life (professional worker) - Intumescent coatings - Professional Workers   ES12   Service life (consumers) - Intumescent coating - Consumers    SECTION 2:   Conditions of use    2.1   Contributing scenario controlling environmental exposure:	PROC13	by dipping and pouring	CS11 Treatment of articles by		
Subsequent service life exposure scenario(s):  ES9 Service life (worker at industrial site) - Intumescent coatings - Workers (industrial)  ES10 Service life (professional worker) - Intumescent coatings - Professional Workers  ES12 Service life (consumers) - Intumescent coating - Consumers  SECTION 2: Conditions of use  2.1 Contributing scenario controlling environmental exposure: 6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%] 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: 6.2 Manufacture or formulation in the chemical industry in closed batch proceocasional controlled exposure or processes with equivalent containment concepts of the contribution of the STP sludge on agricultural soil: Yes  Product characteristics  Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)	PROC15	gent	CS12 Use as laboratory reage		
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ES10 Service life (professional worker) - Intumescent coatings - Professional Workers  Service life (consumers) - Intumescent coating - Consumers  SECTION 2: Conditions of use  2.1 Contributing scenario controlling environmental exposure: 6.1 Use as additive in intumescent coatings (ERC 5)  Amount used, frequency and duration of use (or from service life)  Daily use amount at site: not relevant for the assessment as scenario specific releases are estimated Annual use amount at site: not relevant for the assessment as scenario specific releases are estimated Conditions and measures related to biological sewage treatment plant  Biological STP: Standard [Effectiveness, Water: 0.169%] 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: 6.2 Manufacture or formulation in the chemical industry in closed batch proceoccasional controlled exposure or processes with equivalent containment concepts of the proceoccasional controlled exposure or processes with equivalent containment concepts of the used product: Solid (medium dusty form)		sure scenario(s):	Subsequent service life exposu		
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Receiving surface water flow: >= 1.8E4 m3/day  2.2  Contributing scenario controlling worker exposure: 6.2 Manufacture or formulation in the chemical industry in closed batch processional controlled exposure or processes with equivalent containment concepts (PROC 3)  Product characteristics  Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)	Discharge rate of STP: >= 2E3 m3/day				
2.2 Contributing scenario controlling worker exposure:  6.2 Manufacture or formulation in the chemical industry in closed batch process occasional controlled exposure or processes with equivalent containment concepts (PROC 3)  Product characteristics  Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)	Other given operational conditions affecting environmental exposure				
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Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)	6.2 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions				
Physical form of the used product: Solid (medium dusty form)	Product characteristics				
Frequency and duration of use		se	Frequency and duration of use		
Duration of activity: <= 8 h/day					

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#### Melammina

## 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: <= 40 °C

2.3 Contributing scenario controlling worker exposure:
6.3 Chemical production where opportunity for exposure arises (PROC 4)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

#### Frequency and duration of use

Duration of activity: <= 8 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: 80%]

#### Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.4 Contributing scenario controlling worker exposure:
6.4 Mixing or blending in batch processes (PROC 5)

## **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

#### Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature:  $\leq$  40 °C

2.5 Contributing scenario controlling worker exposure:
6.5 Industrial spraying with Local Exhaust Ventilation (LEV) (PROC 7)

# **Product characteristics**

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#### Melammina

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

Physical form of the used product: Liquid

# Frequency and duration of use

Duration of activity: <= 8 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: Advanced

Local exhaust ventilation: Yes (TRA Effectiveness) [Effectiveness, Inhalation: 95%, 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

Operating temperature: <= 40 °C

2.6

#### Contributing scenario controlling worker exposure:

6.6 Industrial spraying without Local Exhaust Ventilation (LEV) (PROC 7)

#### **Product characteristics**

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

Physical form of the used product: Liquid

# Frequency and duration of use

Duration of activity: <= 8 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: Advanced

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

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

Respiratory protection: Yes (Respirator with APF of 10) [Effectiveness, Inhalation: 90%]

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

Operating temperature: <= 40 °C

2.7

## Contributing scenario controlling worker exposure:

6.7 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a)

# **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

#### Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

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## Melammina

Place of use: Indoor

Operating temperature: <= 40 °C

2.8

## Contributing scenario controlling worker exposure:

6.8 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

#### Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.9

#### Contributing scenario controlling worker exposure:

6.9 Transfer of substance or mixture into small containers (dedicated filling line,

including weighing) (PROC 9)

## **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

# Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.10

# Contributing scenario controlling worker exposure:

6.10 Roller application or brushing (PROC 10)

#### **Product characteristics**

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

Physical form of the used product: Liquid

## Frequency and duration of use

Duration of activity: <= 8 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: Advanced

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 52 - 75

#### Melammina

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

Operating temperature: <= 40 °C

2.11

# Contributing scenario controlling worker exposure: 6.11 Treatment of articles by dipping and pouring (PROC 13)

# Product characteristics

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

Physical form of the used product: Liquid

## Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

## 2.12 Contributing scenario controlling worker exposure:

6.12 Use as laboratory reagent (PROC 15)

## **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

## Frequency and duration of use

Duration of activity: <= 8 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:  $\leq$  40 °C

# 2.13 Contributing scenario controlling worker exposure:

6.13 Hand-mixing with intimate contact and only PPE available (PROC 19)

### **Product characteristics**

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

Physical form of the used product: Liquid

## Frequency and duration of use

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 53 - 75

#### Melammina

Duration of activity: <= 8 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: 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 with specific activity training) and (other)

appropriate dermal protection [Effectiveness, Dermal: 95%]

## Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <= 40 °C

2.14

#### Contributing scenario controlling worker exposure:

6.14 Manual maintenance (cleaning and repair) of machinery (PROC 28)

#### **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

# Frequency and duration of use

Duration of activity: <= 8 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: 80%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature:  $<= 40 \, ^{\circ}\text{C}$ 

SECTION 3:	6.15 Exposure estimation

## 3.1. Environment

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: 0.155 mg/l	0.3
Sedimentation (Fresh water)	Local PEC: 0.766 mg/kg dw	0.3
Marine water	Local PEC: 0.0155 mg/l	0.3
Sedimentation (Marine water)	Local PEC: 0.077 mg/kg dw	0.3
Sewage Treatment Plant	Local PEC: 1.497 mg/l	< 0.01
Agricultural soil	Local PEC: 0.017 mg/kg dw	0.08
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 3.97E-5 mg/m³	< 0.01
Man via Environment - Oral	Exposure via food consumption: 9.7E-3 mg/kg bw/day	0.02
Man via Environment – Combined routes		0.02

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Contributing scenario controlling worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3)  Exposure route  Exposure estimate - Worker  Risk quantification (RCR)  Inhalation, Systemic effects, Long Term  1 mg/m³  0.12  Inhalation, Systemic effects, Acute  4 mg/m³  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 worker exposure: Chemical production where opportunity for exposure arises (PROC 4)  Exposure route  Exposure estimate - Worker  Risk quantification (RCR)  Inhalation, Systemic effects, Long Term  5 mg/m³  0.602  Inhalation, Systemic effects, Acute  20 mg/m³  0.243  Dermal, Systemic effects, Long Term  1.372 mg/kg bw/day  0.116  Combined routes, Systemic effects, Long Term  0.719				
Inhalation, Systemic effects, Long Term  Inhalation, Systemic effects, Acute  Inhalation, Systemic effects, Acute  Inhalation, Systemic effects, Long Term  Inhalation, Systemic effects, Acute  Inhalation, Systemic effects, Acute  Inhalation, Systemic effects, Long Term  Inhalation,				
Inhalation, Systemic effects, Acute 4 mg/m³ 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 worker exposure: Chemical production where opportunity for exposure arises (PROC 4)  Exposure route Exposure estimate - Worker Risk quantification (RCR)  Inhalation, Systemic effects, Long Term 5 mg/m³ 0.602  Inhalation, Systemic effects, Acute 20 mg/m³ 0.243  Dermal, Systemic effects, Long Term 1.372 mg/kg bw/day 0.116  Combined routes, Systemic effects, Long Term 0.719				
Dermal, Systemic effects, Long Term  Combined routes, Systemic effects, Long Term  Contributing scenario controlling worker exposure: Chemical production where opportunity for exposure arises (PROC 4)  Exposure route  Exposure estimate - Worker  Inhalation, Systemic effects, Long Term  5 mg/m³  0.602  Inhalation, Systemic effects, Acute  20 mg/m³  0.243  Dermal, Systemic effects, Long Term  1.372 mg/kg bw/day  0.719				
Combined routes, Systemic effects, Long Term  Contributing scenario controlling worker exposure: Chemical production where opportunity for exposure arises (PROC 4)  Exposure route Exposure estimate - Worker Inhalation, Systemic effects, Long Term 5 mg/m³ 0.602  Inhalation, Systemic effects, Acute 20 mg/m³ 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: Chemical production where opportunity for exposure arises (PROC 4)  Exposure route  Exposure estimate - Worker  Inhalation, Systemic effects, Long Term  5 mg/m³  0.602  Inhalation, Systemic effects, Acute  20 mg/m³  0.243  Dermal, Systemic effects, Long Term  1.372 mg/kg bw/day  0.116  Combined routes, Systemic effects, Long Term  0.719				
Exposure route  Exposure estimate - Worker  Inhalation, Systemic effects, Long Term  5 mg/m³  0.602  Inhalation, Systemic effects, Acute  20 mg/m³  0.243  Dermal, Systemic effects, Long Term  1.372 mg/kg bw/day  0.116  Combined routes, Systemic effects, Long Term  0.719				
Inhalation, Systemic effects, Long Term       5 mg/m³       0.602         Inhalation, Systemic effects, Acute       20 mg/m³       0.243         Dermal, Systemic effects, Long Term       1.372 mg/kg bw/day       0.116         Combined routes, Systemic effects, Long Term       0.719				
Inhalation, Systemic effects, Acute20 mg/m³0.243Dermal, Systemic effects, Long Term1.372 mg/kg bw/day0.116Combined routes, Systemic effects, Long Term0.719				
Dermal, Systemic effects, Long Term  1.372 mg/kg bw/day  0.116  Combined routes, Systemic effects, Long Term  0.719				
Combined routes, Systemic effects, Long Term 0.719				
Code Park Comment and Park Comment (Processing Comments)				
Contributing scenario controlling worker exposure: Mixing or blending in batch processes (PROC 5)				
Exposure route Exposure estimate - Worker Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term 5 mg/m³ 0.602				
Inhalation, Systemic effects, Acute 20 mg/m³ 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 worker exposure: Industrial spraying with Local Exhaust Ventilation (LEV) (PROC 7)				
Exposure route Exposure estimate - Worker Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term 0.4 mg/m³ 0.048				
Inhalation, Systemic effects, Acute 0.4 mg/m³ < 0.01				
Dermal, Systemic effects, Long Term 8.572 mg/kg bw/day 0.726				
Combined routes, Systemic effects, Long Term 0.775				
<b>Contributing scenario controlling worker exposure:</b> Industrial spraying without Local Exhaust Ventilation (LEV) (PROC 7)				
Exposure route Exposure estimate - Worker Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term 0.795 mg/m³ 0.096				
Inhalation, Systemic effects, Acute 0.795 mg/m³ < 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 worker exposure: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a)				
Exposure route Exposure estimate - Worker Risk quantification (RCR)				
Inhalation, Systemic effects, Long Term 5 mg/m³ 0.602				
Inhalation, Systemic effects, Acute 20 mg/m³ 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 worker exposure: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8b)				
Exposure route Exposure estimate - Worker Risk quantification (RCR)				

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Inhalation, Systemic effects, Long T	erm	1 mg/m³	0.12	
Inhalation, Systemic effects, Acute		4 mg/m³	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 filling line, including weighing) (PR		re: Transfer of substance or mixture int	to small containers (dedicated	
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)	
Inhalation, Systemic effects, Long T	erm	5 mg/m³	0.602	
Inhalation, Systemic effects, Acute		20 mg/m³	0.243	
Dermal, Systemic effects, Long Ter	m	1.372 mg/kg bw/day	0.116	
Combined routes, Systemic effects,	Long Term		0.719	
Contributing scenario controlling	worker exposu	re: Roller application or brushing (PRO	OC 10)	
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)	
Inhalation, Systemic effects, Long T	`erm	3.59 mg/m³	0.433	
Inhalation, Systemic effects, Acute		3.59 mg/m³	0.044	
Dermal, Systemic effects, Long Ter	m	5.486 mg/kg bw/day	0.465	
Combined routes, Systemic effects,	Long Term		0.897	
Contributing scenario controlling	worker exposu	re: Treatment of articles by dipping and	d pouring (PROC 13)	
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term		0.525 mg/m³	0.063	
Inhalation, Systemic effects, Acute		0.525 mg/m³	< 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 worker exposure: Use as laboratory reagent (PROC 15)				
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)	
Inhalation, Systemic effects, Long Term		0.5 mg/m ³	0.06	
Inhalation, Systemic effects, Acute		2 mg/m³	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 19)	worker exposu	re: Hand-mixing with intimate contact	and only PPE available (PROC	
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)	
Inhalation, Systemic effects, Long T	erm erm	1.74 mg/m³	0.21	
Inhalation, Systemic effects, Acute		1.74 mg/m³	0.021	
Dermal, Systemic effects, Long Ter	m	7.072 mg/kg bw/day	0.599	
Combined routes, Systemic effects, Long Term			0.809	
Contributing scenario controlling worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC 28)				
Exposure route		Exposure estimate - Worker	Risk quantification (RCR)	
Inhalation, Systemic effects, Long T	erm erm	5 mg/m ³	0.602	
Inhalation, Systemic effects, Acute		20 mg/m³	0.243	
Dermal, Systemic effects, Long Ter	m	2.742 mg/kg bw/day	0.232	
Combined routes, Systemic effects,	Long Term		0.835	
SECTION 4:	6.16 Guidance the ES	to DU to evaluate whether he works	inside the boundaries set by	

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#### Melammina

# Remarks on exposure data from external estimation tools:

#### Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids at high pressure resulting in substantial generation of mist or spray/haze
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source (refinement due to LEV done outside Stoffenmanager®, see below)
- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): Yes
- Regular inspection and maintenance (at least monthly): Yes
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes

The concentration during the task due to the activity undertaken is estimated to be 7.95 mg/m3, resulting in an exposure concentration of 0.4 mg/m3 due to the use of LEV with an effectiveness of 95% (TRA effectiveness). As the task is performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

#### Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids at high pressure resulting in substantial generation of mist or spray/haze
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source
- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): Yes
- Regular inspection and maintenance (at least monthly): Yes
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes The concentration during the task due to the activity undertaken is estimated to be 7.95 mg/m3, resulting in an exposure concentration of 0.795 mg/m3 due to the use of respiratory protection with an effectiveness of 90%. As the task is

performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

#### Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids on large surfaces or large work pieces
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source
- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): Yes
- Regular inspection and maintenance (at least monthly): Yes
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes

The concentration that can be inhaled by the worker during the task due to the activity undertaken is obtained. As the task is performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

### ECETOC TRA Workers 3.1:

Explanation: As solid is used as value for CSA, while liquid is used, it is considered appropriate to refine the exposure estimates, using the standalone version of TRA Workers (v3.1). The vapour pressure at operating temperature (40°C) used for the calculation is 3.71E-8 Pa (as calculated by Chesar).

#### Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids using low pressure, low speed or on medium-sized surfaces
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 57 - 75

## Melammina

- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): Yes
- Regular inspection and maintenance (at least monthly): Yes
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes

The concentration that can be inhaled by the worker during the task due to the activity undertaken is obtained. As the task is performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

# ECETOC TRA Workers 3.1:

Explanation: The exposure estimates for PROC 8a are used, as TRA Workers cannot predict exposure for PROC 28 and these estimates can be considered suitable for estimating exposures during manual maintenance.

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}\,58$ - 75

# Melammina

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

7. Exposure Scenario 7: Widespread use by professional workers - Use as additive in intumescent coatings  SECTION 1: Title of exposure scenario					
		Widespread use by professional workers - Use as additiv	e in intumescent coatings		
Contril	buting scenario controlli	ng environmental exposure			
CS1	Use as additive in intum	escent coatings	ERC5		
Contril	buting scenario controlli	ng worker exposure	•		
CS2	Mixing or blending in ba	atch processes	PROC5		
CS3	Transfer of substance or facilities	mixture (charging and discharging) at non-dedicated	PROC8a		
CS4	Transfer of substance or	mixture (charging and discharging) at dedicated facilities	PROC8b		
CS5	Transfer of substance or including weighing)	mixture into small containers (dedicated filling line,	PROC9		
CS6	Roller application or bru	ıshing	PROC10		
	Non industrial spraying		PROC11		
CS7	Treatment of articles by	dipping and pouring	PROC13		
CS8	Hand-mixing with intim	ate contact and only PPE available	PROC19		
CS9	Manual maintenance (cl	eaning and repair) of machinery	PROC28		
Subseq	uent service life exposur	e scenario(s):			
ES10	Service life (professiona	ll worker) - Intumescent coatings - Professional Workers			
ES12	Service life (consumers)	- Intumescent coating – Consumers			
SECTI	ON 2:	Conditions of use			
2.1	2.1 Contributing scenario controlling environmental exposure: 7.1 Use as additive in intumescent coatings (ERC 8c, ERC 8f)				
Amoun	nt used, frequency and du	uration of use (or from service life)			
Daily lo	ocal widespread use amour	nt: not relevant for the assessment as scenario specific release	s are estimated		
Conditi	ons and measures related t	o biological sewage treatment plant			
Dischar	ical STP: Standard [Effecti rge rate of STP: >= 2E3 mi ation of the STP sludge on	3/day			
Other g	given operational conditi	ons affecting environmental exposure			
Receivi	ing surface water flow: >=	1.8E4 m3/day			
2.2		Contributing scenario controlling worker exposure: 7.2 Mixing or blending in batch processes (PROC 5)			
Product characteristics					
Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)					
Freque	Frequency and duration of use				
Duration of activity: <= 8 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: Yes (Chemically resistant gloves conforming to EN374) and (other) appropriate dermal protection [Effectiveness, Dermal: 80%]					
Other g	Other given operational conditions affecting workers exposure				

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 59 - 75

## Melammina

Place of use: Indoor
Operating temperature: <= 40 °C

2.3

Contributing scenario controlling worker exposure:
7.3 Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a)

#### **Product characteristics**

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

Physical form of the used product: Liquid

#### Frequency and duration of use

Duration of activity: <= 8 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: 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

Operating temperature: <= 40 °C

2.4 Contributing scenario controlling worker exposure:
7.4 Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b)

## **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

# Frequency and duration of use

Duration of activity: <= 8 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: 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

Operating temperature:  $\leq$  40 °C

2.5 Contributing scenario controlling worker exposure:
7.5 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9)

## **Product characteristics**

Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)

### Frequency and duration of use

Duration of activity: <= 8 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%]

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 60 - 75

#### Melammina

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

Operating temperature: <= 40 °C

2.6

Contributing scenario controlling worker exposure:

7.6 Roller application or brushing (PROC 10)

#### Product characteristics

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

Physical form of the used product: Liquid

### Frequency and duration of use

Duration of activity: <= 8 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

Operating temperature: <= 40 °C

2.7 Contributing scenario controlling worker exposure: 7.7 Non industrial spraying (PROC 11)

## **Product characteristics**

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

Physical form of the used product: Liquid

#### Frequency and duration of use

Duration of activity: <= 8 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: Yes (Respirator with APF of 20) [Effectiveness, Inhalation: 95%]

Dermal protection: Yes (Chemically resistant gloves conforming to EN374 with basic employee training) and (other) appropriate dermal protection [Effectiveness, Dermal: 90%]

# Other given operational conditions affecting workers exposure

Place of use: Indoor

Operating temperature: <=40 °C

2.8 Contributing scenario controlling worker exposure:
7.8 Treatment of articles by dipping and pouring (PROC 13)

#### **Product characteristics**

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

Physical form of the used product: Liquid

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 61 - 75

#### Melammina

## Frequency and duration of use

Duration of activity: <= 8 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: 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

Operating temperature: <= 40 °C

2.9 Contributing scenario controlling worker exposure:
7.9 Manual maintenance (cleaning and repair) of machinery (PROC 28)

## **Product characteristics**

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

Physical form of the used product: Liquid

#### Frequency and duration of use

Duration of activity: <= 8 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%]

7 10 Evnosure estimation

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

SECTION 2.

Operating temperature:  $\leq$  40 °C

SECTION 3:	7.10 Exposure estimation			
3.1. Environment				
Release	Release estin	mation method	Explanat	ions
Water	Estimated release rate		Local release rate: 0 kg/day	
Air	Estimated release rate		Local rele	ease rate: 0 kg/day
Non-Agricultural Soil	Estimated release factor		Release fa	actor after on-site RMM: 0%
Dust action toward European approximation			Disk quantification (DCD)	

11011 11giileantarai bon	Estimated release factor		recrease re	ector arter on site review. 676
Protection target		Exposure concentration		Risk quantification (RCR)
Fresh water		Local PEC: 5.0E-3 mg/l		0.01
Sedimentation (Fresh water)		Local PEC: 0.025 mg/kg	dw	0.01
Marine water		Local PEC: 5.0E-4 mg/l		0.01
Sedimentation (Marine water)		Local PEC: 2.4E-3 mg/kg	dw	0.01
Sewage Treatment Plant		Local PEC: 0 mg/l		< 0.01
Agricultural soil		Local PEC: 2.52E-12 mg/	kg dw	< 0.01
Man via Environment - Inhalation effects)	(Systemic	Concentration in air: 1.62E-21 mg/m³		< 0.01
Man via Environment - Oral		Exposure via food consun 1.74E-4 mg/kg bw/day	nption:	< 0.01

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}$ 62 - 75

Man via Environment – Combined routes		< 0.01
3.2. Worker		
Contributing scenario controlling worker expos	ure: Mixing or blending in batch proc	esses (PROC 5)
Exposure route	Exposure estimate - Worker	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 worker expos non-dedicated facilities (PROC 8a)	<b>ure:</b> Transfer of substance or mixture	(charging and discharging) at
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063
Inhalation, Systemic effects, Acute	0.525 mg/m³	< 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 worker expos non-dedicated facilities (PROC 8b)	ure: Transfer of substance or mixture	(charging and discharging) at
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 worker expos filling line, including weighing) (PROC 9)	ure: Transfer of substance or mixture	into small containers (dedicated
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m ³	0.602
Inhalation, Systemic effects, Acute	20 mg/m³	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 expos	ure: Roller application or brushing (P	ROC 10)
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	3.61 mg/m³	0.435
Inhalation, Systemic effects, Acute	3.61 mg/m³	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 worker expos	ure: Non industrial spraying (PROC 1	1)
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.398 mg/m ³	0.048
Inhalation, Systemic effects, Acute	0.398 mg/m³	< 0.01
Dermal, Systemic effects, Long Term	10.71 mg/kg bw/day	0.908
Combined routes, Systemic effects, Long Term		0.956
Contributing scenario controlling worker expos	ure: Treatment of articles by dipping a	
Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	0.525 mg/m ³	0.063

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 63 - 75

#### Melammina

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 worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC 28)

Exposure route	Exposure estimate - Worker	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

SECTION 4:	7.11 Guidance to DU to evaluate whether he works inside the boundaries set by
	the ES

#### Remarks on exposure data from external estimation tools:

# ECETOC TRA Workers 3.1:

Explanation: As solid is used as value for CSA, while liquid is used, it is considered appropriate to refine the exposure estimates, using the standalone version of TRA Workers (v3.1). The vapour pressure at operating temperature (40°C) used for the calculation is 3.71E-8 Pa (as calculated by Chesar).

## Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids on large surfaces or large work pieces
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source
- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): No
- Regular inspection and maintenance (at least monthly): No
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes

The concentration that can be inhaled by the worker during the task due to the activity undertaken is obtained. As the task is performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

#### Stoffenmanager 8:

Explanation: Inhalation exposure concentration estimated using Stoffenmanager® (version 8)

- Activity/type of task: Handling of liquids at high pressure resulting in substantial generation of mist or spray/haze
- Distance to task: In the breathing zone of the worker (distance head-product < 1 m) (worst-case assumption)
- Local controls: No control measures at the source
- Ventilation working room: General ventilation (mechanical)
- Volume of the working room: 100-1000 m3
- Regular cleaning of work area (daily): No
- Regular inspection and maintenance (at least monthly): No
- Presence of secondary emission sources (worst-case assumptions);

Other workers using the same substance simultaneously: Yes

A period of evaporation, drying or curing after the activity (with prolonged emission of vapours): Yes

The concentration during the task due to the activity undertaken is estimated to be 7.96 mg/m3, resulting in an exposure concentration of 0.398 mg/m3 due to the use of respiratory protection. As the task is performed for 8 hours, the daily average concentration equals the task concentration. In accordance with the ECHA Guidance (Chapter R.14), this estimated concentration is therefore considered to be the short-term as well as the long-term inhalation exposure estimate (90th percentiles).

# ECETOC TRA Workers 3.1:

Explanation: The exposure estimates for PROC 8a are used, as TRA Workers cannot predict exposure for PROC 28 and these estimates can be considered suitable for estimating exposures during manual maintenance. The exposure estimates are calculated for using a liquid, with the standalone version of TRA Workers (v3.1). The vapour pressure at operating temperature ( $40^{\circ}$ C) used for the calculation is 3.71E-8 Pa (as calculated by Chesar).

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}$ 64 - 75

# Melammina

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

8. SECTION		Service life (worker at industrial site) - PU foams - Workers Title of exposure scenario	(mustrial)		
	Service life (worker at industrial site) - PU foams - Workers (industrial)				
Contrib	Contributing scenario controlling environmental exposure				
CS1	PU foams - Workers (in		ERC12a		
	outing scenario controlli	·····,	ERC12u		
CS2	_	on of substances bound in materials and/or articles	PROC21		
CS3		gy work-up of substances bound in materials and/or articles	PROC24		
		leading to the inclusion of the substance into the article(s):	TROC24		
ES5	Use at industrial sites - Use				
SECTION		Conditions of use			
2.1	ON 2:	Contributing scenario controlling environmental exposure 8.1 PU foams - Workers (industrial) (ERC 12a)	<b>::</b>		
Amoun	t used, frequency and du	uration of use (or from service life)			
Daily us	se amount at site: not relev	vant for the assessment as scenario specific releases are estimate evant for the assessment as scenario specific releases are estimate.			
Conditio	ons and measures related t	o biological sewage treatment plant			
Discharg	cal STP: Standard [Effecti ge rate of STP: >= 2E3 m tion of the STP sludge on	3/day			
Other g	iven operational condition	ons affecting environmental exposure			
	ng surface water flow: >=				
2.2	2.2 Contributing scenario controlling worker exposure: 8.2 Low energy manipulation of substances bound in materials and/or articles (PROC 21)				
Product	t characteristics				
		mixture/article: <= 100 % : Solid (medium dusty form)			
Freque	ncy and duration of use				
Duration	n of activity: <= 8 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%]					
Conditi	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: <= 40 °C					
2.3	Contributing scenario controlling worker exposure:  8.3 High (mechanical) energy work-up of substances bound in materials and/or articles (PROC 24)		n materials and/or articles		
Product	Product characteristics				
	Percentage (w/w) of substance in mixture/article: <= 100 % Physical form of the used product: Solid (medium dusty form)				
Freque	ncy and duration of use				
Duration	Duration of activity: <= 8 h/day				

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 65 - 75

#### Melammina

## 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%]

8.4 Exposure estimation

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

**SECTION 3:** 

Operating temperature:  $\leq$  40 °C

3.1. Environment				
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: 0.025 mg/kg dw	0.01	
Marine water	Local PEC: 5.0E-4 mg/l	0.01	
Sedimentation (Marine water)	Local PEC: 2.4E-3 mg/kg dw	0.01	
Sewage Treatment Plant	Local PEC: 0 mg/l	< 0.01	
Agricultural soil	Local PEC: 2.52E-12 mg/kg dw	< 0.01	
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.62E-21 mg/m³	< 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. Worker

Contributing scenario controlling worker exposure: Mixing or blending in batch processes (PROC 5)

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	3 mg/m ³	0.361
Inhalation, Systemic effects, Acute	12 mg/m³	0.146
Dermal, Systemic effects, Long Term	2.83 mg/kg bw/day	0.24
Combined routes, Systemic effects, Long Term		0.601

**Contributing scenario controlling worker exposure:** Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a)

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m ³	0.12
Inhalation, Systemic effects, Acute	4 mg/m³	0.049
Dermal, Systemic effects, Long Term	2.83 mg/kg bw/day	0.24
Combined routes, Systemic effects, Long Term		0.36

SECTION 4:	8.5 Guidance to DU to evaluate whether he works inside the boundaries set by
	the ES

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

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}$ 66 - 75

# Melammina

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.

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}$ 67 - 75

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

9. SECTION		Service life (worker at industrial site) - Intumescent coating  Title of exposure scenario	o vvoincis (maastini)
		Service life (worker at industrial site) - Intumescent coatin	gs - Workers (industrial)
Contrib	outing scenario controlli	ng environmental exposure	· /
CS1	Intumescent coatings - V		ERC12a
	outing scenario controlli		
CS2		on of substances bound in materials and/or articles	PROC21
CS3		gy work-up of substances bound in materials and/or articles	PROC24
		s leading to the inclusion of the substance into the article(s):	TROOP.
ES6		Use as additive in intumescent coatings	
SECTION		Conditions of use	
2.1	0112.	Contributing scenario controlling environmental exposure 9.1 Intumescent coatings - Workers (industrial) (ERC 12a)	::
Amoun	t used, frequency and du	uration of use (or from service life)	
Daily us	se amount at site: not relev	vant for the assessment as scenario specific releases are estimate evant for the assessment as scenario specific releases are estimate.	
Conditio	ons and measures related t	o biological sewage treatment plant	
Dischar	cal STP: Standard [Effecti ge rate of STP: >= 2E3 m tion of the STP sludge on	3/day	
		ons affecting environmental exposure	
	ng surface water flow: >=		
2.2		Contributing scenario controlling worker exposure:	
		9.2 Low energy manipulation of substances bound in material (PROC 21)	s and/or articles
Produc	t characteristics		
		mixture/article: <= 100 % : Solid (medium dusty form)	
Freque	ncy and duration of use		
Duration	n of activity: <= 8 h/day		
Technic	cal conditions and measu	res to control dispersion from source towards the worker	
Occupat	tional Health and Safety M	l ventilation (1-3 air changes per hour) [Effectiveness, Inhalation Management System: Advanced fectiveness, Inhalation: 0%, Dermal: 0%]	n: 0%]
Conditi	ons and measures relate	d to personal protection, hygiene and health evaluation	
	tory protection: No [Effec protection: No [Effective		
Other g	given operational conditi	ons affecting workers exposure	
	f use: Indoor ng temperature: <= 40 °C		
2.3 Contributing scenario controlling worker exposure: 9.3 High (mechanical) energy work-up of substances bound in materials and/or articles (PROC 24)			
Produc	t characteristics		
		mixture/article: <= 100 % : Solid (medium dusty form)	
Freque	ncy and duration of use		
Duration	n of activity: <= 8 h/day		

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 68 - 75

#### Melammina

## 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%]

9.4 Exposure estimation

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

**SECTION 3:** 

Operating temperature: <= 40 °C

3.1. Environment					
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			

Release factor after on-site RMM: 0% Non-Agricultural Soil Estimated release factor **Protection target Exposure concentration** Risk quantification (RCR) Fresh water Local PEC: 5.0E-3 mg/l 0.01 Sedimentation (Fresh water) Local PEC: 0.025 mg/kg dw 0.01 Marine water Local PEC: 5.0E-4 mg/l 0.01 Sedimentation (Marine water) Local PEC: 2.4E-3 mg/kg dw 0.01 Sewage Treatment Plant < 0.01 Local PEC: 0 mg/l Agricultural soil Local PEC: 2.52E-12 mg/kg dw < 0.01 < 0.01 Man via Environment - Inhalation (Systemic Concentration in air: effects) 1.62E-21 mg/m³

## 3.2. Worker

Man via Environment - Oral

Man via Environment - Combined routes

Contributing scenario controlling worker exposure: Low energy manipulation of substances bound in materials and/or articles (PROC 21)

Exposure via food consumption:

1.74E-4 mg/kg bw/day

< 0.01

< 0.01

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	3 mg/m³	0.361
Inhalation, Systemic effects, Acute	12 mg/m³	0.146
Dermal, Systemic effects, Long Term	2.83 mg/kg bw/day	0.24
Combined routes, Systemic effects, Long Term		0.601

Contributing scenario controlling worker exposure: High (mechanical) energy work-up of substances bound in materials and/or articles (PROC 24)

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	1 mg/m³	0.12
Inhalation, Systemic effects, Acute	4 mg/m³	0.049
Dermal, Systemic effects, Long Term	2.83 mg/kg bw/day	0.24
Combined routes, Systemic effects, Long Term		0.36

SECTION 4:	9.5 Guidance to DU to evaluate whether he works inside the boundaries set by
	the ES

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 69 - 75

# Melammina

managed to at least equivalent levels.

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.

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}$ 70 - 75

<b>10.</b> ]	Exposure Sco	enario 10	: Service life	(professional wor	ker) - Intumescent	coatings - Professional Wor	rkers
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			essional worker) - Intumes	cent coating	gs - Professional Workers	
SECTIO	SECTION 1: Title of exposure scenario					
	Service life (professional worker) - Intumescent coatings - Professional Workers					
Contribu	uting scenario controllin	g environmental o	exposure			
CS1	Intumescent coatings - Pr	ofessional Worker	rs		ERC10a, ERC11a	
Contribu	uting scenario controlling	g worker exposur	e			
CS2	Low energy manipulation	of substances bou	und in materials and/or article	les	PROC21	
Exposur	re scenario(s) of the uses	leading to the inc	lusion of the substance into	the article	e(s):	
ES6	Use at industrial sites - U	se as additive in ir	ntumescent coatings			
ES7	Widespread use by profes	ssional workers - U	Use as additive in intumesce	nt coatings		
SECTIO	ON 2:	Conditions of use	2			
2.1			nario controlling environn coatings - Professional World			
Amount	used, frequency and dur	ration of use (or f	rom service life)			
Daily loc	cal widespread use amount	: not relevant for t	the assessment as scenario sp	pecific relea	ses are estimated	
Conditio	ns and measures related to	biological sewage	e treatment plant			
Discharg	al STP: Standard [Effective rate of STP: >= 2E3 m3. ion of the STP sludge on a	/day				
Other gi	iven operational condition	ns affecting envir	onmental exposure			
Receivin	g surface water flow: >= 1	.8E4 m3/day				
2.2	2.2 Contributing scenario controlling worker exposure: 10.2 Low energy manipulation of substances bound in materials and/or articles (PRO 21)				aterials and/or articles (PROC	
Product	characteristics					
	ge (w/w) of substance in n form of the used product:					
Frequen	cy and duration of use					
Duration	of activity: <= 8 h/day					
Technica	al conditions and measur	res to control disp	ersion from source toward	ls the work	er	
Occupati	ventilation: Basic general ional Health and Safety Ma haust ventilation: No [Effe	anagement System		veness, Inha	lation: 0%]	
Conditio	ons and measures related	to personal prote	ection, hygiene and health	evaluation		
	ory protection: No [Effection or		: 0%]			
Other gi	ven operational condition	ns affecting work	ters exposure			
	use: Indoor g temperature: <= 40 °C					
SECTIO	ON 3:	10.3 Exposure	e estimation			
3.1. Env	ironment					
Release		Release estin	mation method	Explanations		
Water		Estimated re	Estimated release rate		Local release rate: 0 kg/day	
Air		Estimated release rate Local release rate: 0 kg/day		ase rate: 0 kg/day		
Non-Agr	ricultural Soil	Estimated re	lease factor	Release fa	actor after on-site RMM: 0%	
		Exposure concentration	1	Risk quantification (RCR)		
Fresh water					rush quantification (recit)	

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 71 - 75

# Melammina

	_		
Sedimentation (Fresh water)	Local PEC: 0.025 mg/kg dw	0.01	
Marine water	Local PEC: 5.0E-4 mg/l	0.01	
Sedimentation (Marine water)	Local PEC: 2.4E-3 mg/kg dw	0.01	
Sewage Treatment Plant	Local PEC: 0 mg/l	< 0.01	
Agricultural soil	Local PEC: 2.52E-12 mg/kg dw	< 0.01	
Man via Environment - Inhalation (Systemic effects)	Concentration in air: 1.62E-21 mg/m³	< 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. Worker

**Contributing scenario controlling worker exposure:** Low energy manipulation of substances bound in materials and/or articles (PROC 21)

Exposure route	Exposure estimate - Worker	Risk quantification (RCR)
Inhalation, Systemic effects, Long Term	5 mg/m³	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:	10.4 Guidance to DU to evaluate whether he works inside the boundaries set by
	the ES

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

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.

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}$ 72 - 75

11. E	posure Scenario	11: Service life	(consumers) -	PU foams –	Consumers
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- 21	ON 1:		e of exposure			
SECTI	OH I.		<del>-</del>	umers) - PU foams – Cons	Imore	
				•	umers	
CS1	Contributing scenario controlling environmental exposure  CS1 PU foams – Consumers ERC10a, ERC11a					
						ERC10a, ERC11a
	buting scenario controllin					AC1 AC1 AC12 AC
CS2	Use of articles containing	ig ioa	m with encaps	surated the substance		AC1, AC1a, AC 13, AC 13e
Exposu	re scenario(s) of the uses	lead	ing to the inc	lusion of the substance into	the article	(s):
ES5	Use at industrial sites - 1					
SECTION	ON 2:	Cor	nditions of use			
2.1				nario controlling environm Consumers (ERC 10a, ERC		sure:
Amoun	nt used, frequency and du			•	114)	
				he assessment as scenario sp	ecific releas	ses are estimated
	ons and measures related t					
	cal STP: Standard [Effecti					
Dischar	rge rate of STP: >= 2E3 m ation of the STP sludge on	3/day	•			
Other 9	given operational conditi	ons a	ffecting envir	onmental exposure		
Receivi	ing surface water flow: >=	1.8E	4 m3/day	<del>-</del>		
2.2		Cor	ntributing sce	nario controlling consume	r exposure:	
		11.2				e substance (AC1, AC1a, AC
Produc	et characteristics					
Exposu	age (w/w) of substance in re via inhalation route: Inh	nalatio			nt	
EXPOSU	re via oral route: Oral exp	osure				
	re via oral route: Oral experience Oral experi		is considered	to be not relevant		
SECTION	ON 3:			to be not relevant		
SECTION 3.1. Env	ON 3: vironment		is considered	to be not relevant e estimation		ons
SECTION 3.1. Env	ON 3: vironment		is considered 11.3 Exposure Release estin	to be not relevant e estimation mation method	Explanati	
3.1. Env Release	ON 3: vironment		is considered  11.3 Exposure  Release estin  Estimated re	e estimation mation method	Explanation Local release	ase rate: 0 kg/day
SECTION 3.1. Environment Section 3.1. Environm	ON 3: vironment		Release estin Estimated re	estimation mation method lease rate	Explanati Local relea	ase rate: 0 kg/day ase rate: 0 kg/day
3.1. Env Release Water Air Non-Ag	ON 3:  vironment  e  gricultural Soil		is considered  11.3 Exposure  Release estin  Estimated re	e estimation  mation method lease rate lease factor	Explanati Local relea	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0%
SECTION 3.1. Environment Section 3.1. Environm	ON 3:  vironment  e  gricultural Soil  tion target		Release estin Estimated re	to be not relevant estimation mation method lease rate lease factor Exposure concentration	Explanati Local relea	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0% Risk quantification (RCR)
3.1. Env Release Water Air Non-Ag Protect Fresh w	vironment e gricultural Soil tion target		Release estin Estimated re	mation method lease rate lease factor Exposure concentration Local PEC: 5.0E-3 mg/l	Explanation Local release face Release face	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0% Risk quantification (RCR) 0.01
SECTION 3.1. Environment Section 1.1. Environm	con 3:  vironment  e  gricultural Soil  tion target  vater  intation (Fresh water)		Release estin Estimated re	to be not relevant  estimation  mation method  lease rate  lease factor  Exposure concentration  Local PEC: 5.0E-3 mg/l  Local PEC: 0.025 mg/kg	Explanation Local release face Release face	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0%  Risk quantification (RCR)  0.01  0.01
SECTION 3.1. Environment of the second secon	con 3:  vironment  e  gricultural Soil  tion target  vater  ntation (Fresh water)  water		Release estin Estimated re	mation method lease rate lease factor Exposure concentration Local PEC: 5.0E-3 mg/l Local PEC: 0.025 mg/kg Local PEC: 5.0E-4 mg/l	Explanati Local relea Local relea Release fac	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0% Risk quantification (RCR) 0.01 0.01
SECTION 3.1. Environment of the second secon	con 3:  vironment  e  gricultural Soil  tion target  vater  intation (Fresh water)  water  intation (Marine water)		Release estin Estimated re	to be not relevant  estimation  mation method  lease rate  lease factor  Exposure concentration  Local PEC: 5.0E-3 mg/l  Local PEC: 5.0E-4 mg/l  Local PEC: 2.4E-3 mg/kg	Explanati Local relea Local relea Release fac	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0%  Risk quantification (RCR) 0.01 0.01 0.01 0.01
SECTION 3.1. Environment of the second secon	con 3:  vironment  e  gricultural Soil  tion target  vater  intation (Fresh water)  water  intation (Marine water)  e Treatment Plant		Release estin Estimated re	mation method lease rate lease factor  Exposure concentration Local PEC: 5.0E-3 mg/l Local PEC: 0.025 mg/kg Local PEC: 5.0E-4 mg/l Local PEC: 2.4E-3 mg/kg Local PEC: 0.025 mg/kg	Explanati Local relea Local relea Release face dw	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0%  Risk quantification (RCR)  0.01  0.01  0.01  0.01
SECTION 3.1. Environment of the second secon	con 3:  vironment  e  gricultural Soil  tion target  vater  intation (Fresh water)  water  intation (Marine water)  e Treatment Plant  ltural soil  via Environment - Inhai		Release estin Estimated re Estimated re	to be not relevant  estimation  mation method  lease rate  lease factor  Exposure concentration  Local PEC: 5.0E-3 mg/l  Local PEC: 5.0E-4 mg/l  Local PEC: 2.4E-3 mg/kg  Local PEC: 0 mg/l  Local PEC: 0 mg/l  Concentration in air:	Explanati Local relea Local relea Release face dw	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0%  Risk quantification (RCR) 0.01 0.01 0.01 0.01
SECTION 3.1. Environment of the second secon	con 3:  vironment  e  gricultural Soil  tion target  vater  intation (Fresh water)  water  intation (Marine water)  e Treatment Plant  ltural soil  via Environment - Inhai		Release estin Estimated re Estimated re	to be not relevant  estimation  mation method  lease rate  lease factor  Exposure concentration  Local PEC: 5.0E-3 mg/l  Local PEC: 5.0E-4 mg/l  Local PEC: 2.4E-3 mg/kg  Local PEC: 0 mg/l  Local PEC: 0 mg/l  Local PEC: 2.52E-12 mg/	Explanati Local relea Local relea Release face dw dw dw	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0%  Risk quantification (RCR)  0.01  0.01  0.01  0.01  < 0.01  < 0.01  < 0.01
SECTION 3.1. Environment of the second secon	con 3:  vironment  e  gricultural Soil  tion target  vater  intation (Fresh water)  water  intation (Marine water)  e Treatment Plant  tural soil  via Environment - Inha	lation	Release estin Estimated re Estimated re Estimated re (Systemic	to be not relevant  estimation  mation method  lease rate  lease factor  Exposure concentration  Local PEC: 5.0E-3 mg/l  Local PEC: 5.0E-4 mg/l  Local PEC: 2.4E-3 mg/kg  Local PEC: 0 mg/l  Local PEC: 2.52E-12 mg/  Concentration in air:  1.62E-21 mg/m³  Exposure via food consum	Explanati Local relea Local relea Release face dw dw dw	ase rate: 0 kg/day ase rate: 0 kg/day ctor after on-site RMM: 0%  Risk quantification (RCR)  0.01  0.01  0.01  < 0.01  < 0.01  < 0.01  < 0.01

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#### Melammina

Contributing scenario controlling consumer exposure:	Use of articles containing foam with encapsulated the substance
(AC1, AC1a, AC 13, AC13e)	

Exposure route	Exposure estimate - Consumer	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:	11.4 Guidance to DU to evaluate whether he works inside the boundaries set by
	the ES

## Remarks on exposure data:

Migration study:

Explanation: The substance is used in foam mattresses, as a non-halogenated flame retardant. The European association of flexible polyurethane foam blocks manufacturers (EUROPUR) commissioned a migration study, to evaluate the potential exposure of humans from melamine used in flexible PU foam used in mattresses. The study was submitted to ECHA by EUROPUR, as part of their response to the public consultation on the CLH report for melamine dated November 2019 and can be found on the ECHA website.

Based on the vapour pressure of the substance and since mattresses are flat and not mouthed, inhalation and oral exposure are considered negligible, while potential dermal exposure is deemed the most relevant route of exposure due to the prolonged contact duration, with a large part of the body and the possible effect of sweat as a vehicle.

The migration of melamine into synthetic sweat soaked filter papers from these foams was investigated. As a mattress typically consists of a PUR foam core surrounded with a fabric layer, migration was investigated with and without the use of a polyester-polypropylene mattress cover placed between the foam and filter paper. The set-up was compressed to 70% of its depth in order to simulate a person sleeping on the mattress and incubated at 40°C for 2 hours.

When the foam was covered, a standard practice for every mattress with flexible PU foam, the migration was below the limit of detection (LOD) and LOD/2 was used as estimate for people sleeping directly on the mattress cover (0.6375 mg/kg bw/day for an adult and 1.484 for a baby). Note that this is a worst-case assessment as usually people don't sleep directly on the mattress cover but put additional sheets for additional mattress protection and comfort. When refined due to the use of additional sheets for mattress protection and comfort, the dermal exposure estimates were concluded to be 0.06375 for an adult and 0.1484 for a baby. Note that no melamine was detected when the mattress cover was included in the test set-up and that the calculations are therefore done based on the LOD/2.

# Allegato alla scheda dati di sicurezza estesa (eSDS) $^{\mathrm{Pagina:}}$ 74 - 75

12.	Exposure	Scenario	12: Service	e life (consumers)	- Intumescent coating -	Consumers
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	_			imers) - intumescent coati	ng – Const	IIIICI S	
SECTION	ON 1:		exposure				
Service		e life (cons	consumers) - Intumescent coating – Consumers				
Contrib	buting scenario controllir	ng enviro	onmental e	exposure			
CS1	Intumescent coating – C	onsumer	s			ERC10a, ERC11a	
Contrib	buting scenario controllir	ig worke	er exposur	e			
CS2	Use of articles with intur	mescent	coating wit	th encapsulated the substanc	e	AC13	
Exposu	re scenario(s) of the uses	leading	to the incl	lusion of the substance into	the article	e(s):	
ES6	Use at industrial sites - U	Jse as ad	lditive in in	ntumescent coatings			
ES7	Widespread use by profe	essional v	workers - U	Jse as additive in intumescen	nt coatings		
SECTION	ON 2:	Condit	ions of use				
2.1				nario controlling environm coating – Consumers (ERC			
Amoun	t used, frequency and du	ration o	f use (or fi	rom service life)			
Daily lo	ocal widespread use amour	nt: not re	levant for t	he assessment as scenario sp	pecific relea	ases are estimated	
Condition	ons and measures related t	o biologi	ical sewage	e treatment plant			
Dischar	cal STP: Standard [Effecting rate of STP: >= 2E3 minutes of STP sludge on the STP sludge of the STP sl	3/day		-			
Other g	given operational condition	ons affec	ting envir	onmental exposure			
Receivi	ng surface water flow: >=	1.8E4 m	3/day				
2.2				nario controlling consumer es with intumescent coating		sulated the substance (AC 13)	
Produc	t characteristics						
Exposus Exposus	Percentage (w/w) of substance in mixture/article: <= Exposure via inhalation route: Inhalation exposure is Exposure via dermal route: Dermal exposure assumed Exposure via oral route: Oral exposure is considered			considered to be not relevar d to be negligible	nt		
SECTION	ON 3:	12.3	Exposure	estimation			
3.1. Env	vironment						
Release	2	Re	elease estir	imation method Explanation		ns	
Water		Es	stimated rel	lease rate	Local rele	ease rate: 0 kg/day	
Air		Es	stimated rel	lease rate	Local rele	ease rate: 0 kg/day	
Non-Ag	gricultural Soil	Es	stimated rel	lease factor	Release fa	actor after on-site RMM: 0%	
Protect	ion target			Exposure concentration		Risk quantification (RCR)	
Fresh w	ater			Local PEC: 5.0E-3 mg/l		0.01	
Sedimer	ntation (Fresh water)			Local PEC: 0.025 mg/kg	dw	0.01	
Marine water				Local PEC: 5.0E-4 mg/l		0.01	
Sedimentation (Marine water)				Local PEC: 2.4E-3 mg/kg dw		0.01	
Sewage Treatment Plant			Local PEC: 0 mg/l		< 0.01		
Agricul	tural soil			Local PEC: 2.52E-12 mg/	kg dw	< 0.01	
Man via Environment - Inhalation (Systemic effects)			Concentration in air: 1.62E-21 mg/m ³		< 0.01		
effects)  Man via Environment - Oral			Exposure via food consun	nption:	< 0.01		
1,1411 ,10				1.74E-4 mg/kg bw/day			

# Allegato alla scheda dati di sicurezza estesa (eSDS) Pagina: 75 - 75

# Melammina

# 3.2 Consumer

**Contributing scenario controlling consumer exposure:** Use of articles with intumescent coating with encapsulated the substance (AC 13)

As any (dermal) contact by consumers with these coatings will be incidental and as the substance is embedded in a matrix, inhalation, dermal and oral exposure (and therefore risks) are considered to be negligible.

SECTION 4:	12.4 Guidance to DU to evaluate whether he works inside the boundaries set by
	the ES

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

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.