Message

From: Kathleen Stanton [KStanton@CleaningInstitute.org]
Sent: 10/20/2020 7:12:53 PM
To: Parsons, Doug [Parsons.Douglas@epa.gov]; Douglas Troutman [DTroutman@CleaningInstitute.org]; sbennett@thehcpa.org; Wheeler, Cindy [Wheeler.Cindy@epa.gov]
CC: Nathan E. Sell [NSell@CleaningInstitute.org]
Subject: RE: Exposure Data for Consumer Uses of 1,4-dioxane

Hello All,
Some thoughts on your questions below.

1. Do you have any existing measured concentration levels or known concentration ranges of 1,4-dioxane in finished consumer products, specifically dishwasher detergent, dish soap, laundry detergent, and surface cleaners?

ACI does not have measured concentrations of 1,4-dioxane in these products. The default going forward (nationwide) will by New York State's 1ppm limit for these products. This potentially is a high threshold as New Jersey is considering a lower concentration restriction.

2. Do you have any existing survey or other data on specific product types (e.g., detergents, cleaners, dish soap) that can be used to inform duration or frequency of cleaning or washing activities?

3. Do you have any existing survey or other data on specific product types (e.g., detergents, cleaners, dish soap) that can be used to inform the amount of product used per day or per activity and/or the level of dilution typical for products used in hand washing activities?

Data for questions 2 and 3 can be found in the Appendices of the *Consumer Product Ingredient Safety: Exposure and Risk Screening Method for Consumer Product Ingredients* (2nd Edition). A partial view of one of the exposure route (in this case, dermal) table is below. Inhalation and oral exposures are also modeled for. The publication can be found here: https://www.aciscience.org/docs/Consumer_Product_Ingredient_Safety_v2.0.pdf

Consumer Product Ingredient Safety
Exposure and Risk Screening Methods for Consumer Product Ingredients

Appendix II-A-1: Dermal Exposure Parameters to Estimate Screening Exposures to Consumer Products – North America
(References, abbreviations and special notes are described in footnotes at end of table)

	Product Use Freq. (F Q)		Product Amount Used per Use (A)		Product Amount Used per Day (AT)	Product Use Conc.		Product Use Conc. (PC)	Contact Area (SA)		Product Retained (R)	Film Thickness (FT)	Product Retained (RR)		Percent Transfer (PT)		Normal Area (NA)	Body Weight (BW)		Scaling: Duration of Exposure (TF)		Product Exposure (mg/kg/day)	Model/Equation Reference	Model/Equation Formula
	(uses/day)		(grams)		(grams)	(%)		(grams/)	(cm²)		(mg/cm²)	(cm / d)	(%)		(%)		(%)	(kg)						Note: CF refers to conversion factor of 1000mg/g, assumed 100% dermal absorption.
Soaps and Detergents																								
Laundry detergent – Washing clothes			0.01	A									0.00%	A	1%	A	100%	60	F			0.0007	SDA (see AIAC Exposure Initiative: Glucose amides)	A x PR x PT x SA x CF / BW
Laundry detergent (bedding) – Washing clothes			0.05	G									0.00%	A	1%	A	100%	60	F			0.0000	SDA (see AIAC Exposure Initiative: Glucose amides)	A x PR x PT x SA x CF / BW
Fabric conditioner, dryer sheet – Washing clothes			0.02	A									0.00%	A	1%	A	100%	60	F			0.0007	SDA (see AIAC Exposure Initiative: Glucose amides)	A x PR x PT x SA x CF / BW
Fabric conditioner, dryer sheet – Washing clothes			2	A									10.00%	A	1%	A	100%	60	F			0.0000	SDA (see AIAC Exposure Initiative: Glucose amides)	A x PR x PT x SA x CF / BW
Laundry detergent/fabric conditioner handwash	1	A				1%	A	0.01	K	1000	G		0.0004				100%	60	F	0.007	G	0.0007	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x SA x TF x CF / BW
Laundry detergent (presoaked/spot treater)	1	A				50%	G	0.5	K	300	R		0.0004				100%	60	F	0.007	G	0.0000	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x SA x TF x CF / BW
Laundry detergent (presoaked/spot treater (stain/soiling))	1	A				100%	G	1.0	K	300	R		0.0004				100%	60	F	0.007	G	0.1000	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x SA x TF x CF / BW
Dishwashing liquid/ handwash (hand)	0.14	K						0.5	K	1000	G		0.0004				100%	60	F	0.0005	K	0.0000	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x SA x TF x CF / BW
Dishwashing liquid/ handwash (dishes)	3	K				0.05%	A	0.0005	K	1000	G		0.0004				100%	60	F	0.01	G	0.0000	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x SA x TF x CF / BW
Hard surface cleaner/spray	1	K	01	A		1%	P	0.01	K	1000	G		0.0004			100%	N	100%	60	F	0.014	G	0.0000	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x PT x SA x TF x CF / BW
SPC liquid	1	A	30	A		1.5%	P	0.015	K	1000	G		0.0004			100%	N	100%	60	F	0.014	G	0.0100	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x PT x SA x TF x CF / BW
SPC gel (mattress cleaner)	1	G				100%	G	1.0	K	300	G		0.0004			100%	N	100%	60	F	0.014	G	0.1000	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x PT x SA x TF x CF / BW
SPC spray (mattress cleaner)	1	G				100%	G	1.0	K	300	G		0.0004			100%	N	100%	60	F	0.0108	G - A	0.0000	AIAC Exposure Initiative: Glucose amides	FQ x PC x SA x PT x PT x SA x TF x CF / BW

Please let us know if we can further assist,

Best regards,
Kathy

Kathleen Stanton ● Associate Vice President, Technical & International Affairs ●

American Cleaning Institute® 1401 H Street, NW, Ste 700 Washington DC 20005 ● O 202.662.2513 ● C 202.870.9540
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From: Parsons, Doug <Parsons.Douglas@epa.gov>
Sent: Tuesday, October 20, 2020 10:28 AM
To: Douglas Troutman <DTroutman@CleaningInstitute.org>; sbennett@thehcpa.org; Wheeler, Cindy <Wheeler.Cindy@epa.gov>
Cc: Kathleen Stanton <KStanton@CleaningInstitute.org>; Nathan E. Sell <NSell@CleaningInstitute.org>
Subject: Exposure Data for Consumer Uses of 1,4-dioxane

Hello Kathleen, Steve, Doug, and Nathan

Thanks again for all the information to date. We are continuing to deliberate on 1,4-dioxane as part of the final risk evaluation under TSCA.

We have a few questions that are pasted below regarding consumer exposure scenarios for surface cleaners, dish soap, dishwashing detergent and laundry detergent.

Can you please take a look and let us know if you have answers to these questions, and if so, we would be very interested in obtaining the information as soon as possible. We are also glad to organize a call if that would be useful. Please let us know.

Thanks, doug

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Douglas W. Parsons
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
1201 Constitution Ave NW
Washington, D.C. 20460
Phone: (202)564-0341
Email: parsons.douglas@epa.gov