RISK INFORMATION EXCHANGE (RiskIE): A DATABASE TO COMMUNICATE IN-PROGRESS RISK ASSESSMENTS

Andrea Wullenweber¹, Oliver Kroner¹, Andrew Maier¹, and Michael Dourson¹, Drew Rak², Phil Wexler³, Chuck Tomljanovic⁴ ¹Toxicology Excellence for Risk Assessment (TERA), Cincinnati, Ohio; ²Noblis, Falls Church, VA; ³National Library of Medicine, Bethesda, MD; Concurrent Technologies Corporation (CTC), Johnstown, PA



Abstract

The rate of chemical use and development has outpaced the development of risk values and the resolution of risk assessment methodology questions, both of which are needed by the risk assessment community. In an effort to increase output and communication of harmonized risk assessment guidance for risk values and methods, an Alliance for Risk Assessment (ARA) has been developed. The ARA aims to increase the capacity for developing risk values and facilitate the harmonization of risk assessment processes as a shared resource for diverse organizations. Central to the ARA is the development of a hazard and risk assessment notification system — the Risk Information Exchange (RiskIE).

RiskIE is being developed to enhance communication about inprogress risk assessment work. This database will be a National Library of Medicine (NLM), web-based system for coordinating and sharing information on human health risk assessment projects, including chemical risk value and methodology documents that are under development or revision. Identification of groups working on a chemical or issue of interest will allow stakeholders (e.g., states, provinces, tribes, industry, public interest groups, or federal agency stakeholders) an opportunity to provide input on ongoing assessments or develop collaborations with document authors. The networking created by this system will decrease duplication of effort and reduce the chances for multiple competing assessments. The system will also encourage sharing of data, which will lead to higher quality assessment documents.

Specifically, RiskIE will contain notifications about human health risk assessment projects in progress or completed projects that have either not been peer reviewed and/or are ineligible for inclusion on the International Toxicity Estimates for Risk (ITER) database of chronic human health risk data (www.tera.org/iter/ or http://toxnet.nlm.nih.gov/) or other public domain databases. The notification system will also identify risk assessment data gaps and will contain links to non-chemical information related to human health risk assessment, such as training modules, white papers and risk documents. It will be part of the NLM's TOXNET compilation of databases (http://toxnet.nlm.nih.gov/). In addition, it will be linked with TERA's ITER database and will be fully searchable against other databases in the TOXNET system. This presentation provides the proposed database design. A data submission form is available online for submitting projects to the forthcoming database. A beta version of the database is currently available at (www.allianceforrisk.org).

- ment of risk values
- organizational boundaries

(ITER, www.tera.org/iter) and State Screening Levels indicated discrepancies of greater than 30 fold. Two examples are provided below: Barium 30 fold difference in risk values is due to use of different methods, basis, species, effects, study and uncertainty factor. ATSDR and EPA used benchmark dose methods with a study in mice, while RIVM used a NOEL from a study in humans with a different critical endpoint.

 Pentachlorophenol 30 fold difference from use of a more recent study, including use of different species, uncertainty factors and critical effect. ATSDR and RIVM used a more recent study than EPA that was based on a different species, critical effect, and uncertainty factor.

munication





Why do we need RiskIE?

. Chemical use and development has outpaced the develop-

• The GAO (2006) reported approximately 20,000 new chemicals have been introduced since the implementation of the Toxic Substances Control Act (TSCA) in 1979. On average, this equates to over 700 new chemicals introduced into commerce each year.

• The development of risk values for these chemicals is significantly slower than the pace of production. It takes years for all of the chemical testing required by various government agencies to be conducted before risk values can be developed For example, of the 15 Toxicological Profiles published during 2006, 13 of those were updates to previously published Toxicological Profiles and only two were first time evaluations. During 2006, EPA updated one existing chemical on IRIS

. Risk assessment methodologies and values vary across

Comparison of chronic risk values on the International Toxicity Estimates for Risk

. Collaboration requires improved inter-organizational com-

A survey of the risk assessment community revealed ongoing assessments of individual substances within multiple agencies. Agency representatives indicated they were unaware other assessments were simultaneously underway.



As a component of the Alliance for Risk Assessment (ARA), RiskIE will interface with International Toxicity Estimates for Risk (ITER). Specifically, this database will contain notifications about human health risk assessment projects in progress, or completed projects that have either not been peer reviewed and/ or are ineligible for inclusion on *ITER* or other public domain databases.

RisklE will be a National Library of Medicine (NLM), veb-based system for coordinating work on chemical risk value and methodology documents that are under development or revision. This system provides a platform for notification of ongoing (but currently unpublished) risk value development activities, allowing stakeholders an opportunity to provide input, and preventing duplication of effort. The system encourages data sharing, resulting in higher quality assess-

ment documents.

reviewed risk values from a variety of national and international organizations, as well as independent groups. *ITER* currently contains risk values for more than 600 chemicals, and is part of the National Library of Medicine's TOXNET compilation of databases. Risk values developed under the Alliance for Risk Assessment are published on *ITER* after appropriate peer review and approval of the risk values. In addition, peer reviewed risk values already developed by State agencies and independent groups can be uploaded to *ITER* to foster data sharing.

ITER provides the public with easy access to peer-



Types of Notification on Riskle



🌏 Back 👻 🕥 👻 🕨	1 🖻 🏠	🔎 Search 🔶 F	=avorites 🧭	🛛 🗟 • 🌺 🔟 • 📘	_ 11 🔏 🔄			
ddress 🙋 http://www.a	allianceforrisk.or	g/HANS%20database%	20completed.htn	n	💌 🔁 G	o Links »	🔨 👻 🚫 Nu	sphere Php
A J for Ris	[AN k Asses	ICE sment			Ap A	<i>ا</i> proa Pub sses	A Colla ach fo lic He ssmei	abo r So alth nt Is
Home		About the ARA	T	pols Pr	roiects	Contact t	he ARA	Se
Riskl	E: R	isk Infor	matio	n Exchang	je			
Chemical Name	Chemical CAS	Type of Project	Status	Anticipated Date of Completion	Description of F	Project	Contact	Compa
Methylenedianiline	101-77-9	Risk Document Development	Completed	4/3/2006	PEL (Permissible I Limit)	Exposure		os
						(
🖯 Start 🛛 🙋 HNS data	base 🙆 🗆	alendar - Micro 🛛 🚞 S	3 Windows Ex	▼ 2 Microsoft Of ▼	🔀 Adobe Acrobat	🔛 Microso	ft Office 🛛 🖸	Microsoft F

NS database - Microsoft Internet Explore ile Edit View Favorites Tools Help 🔾 Back 🔹 🕥 🖌 😰 🏠 🔎 Search 🤺 Favorites 🤣 🔗 - چ 📨 🕒 🎉 🦓 ddress 🗃 http://www.allianceforrisk.org/HANS%20database%20In%20Progress.htm

RiskIE: Risk Information Exchange

In Progress Completed Project Requests

e Edit View Favorites Tools He

	Chemical Name	Chemical CAS	Type of Project	Status	Anticipated Date of Completion	Description of Project	Contact Name	Company
	Acetaldehyde	75-07-0	Risk Document Development	In Progress	8/31/2009	Cancer and Noncancer risk values	<u>Contact</u>	US EPA
	Benzene	71-43-2	Risk Document Development	In Progress	not specified	Acute Exposure Guideline		US EPA A
	Benzyl alchol	100-51-6	Risk Document Development	In Progress	not specified	WEEL (workplace Environmental Exposure Limit)	<u>Mili Mavely</u>	AIHA
	Cellulose	9004-34-6	Risk Document Development	In Progress	not specified	Occupational Exposure Limit: TLV (Threshold Limit Value)		ACGI
	Chloroform	67-66-3	Risk Document Development	In Progress	not specified	Occupational Exposure Limit	Sharon Munn	EU ECB (O
	Furfural	98-01-1	Risk Document Development	In Progress	not specified	Emergency Response Planning Guideline		AIHA
Ì				,		-		
h								

🟄 Start 🖉 HNS database... 🙆 Calendar - Micro... 🗀 3 Windows Ex... 🔹 📝 Aicrosoft Of... 🗸 🔀 Adobe Acrobat ... 🖾 Microsoft Office... 🗔 Microsoft Front... 🔍 👟 9:51 AM





		_	<u> B</u> ×	
			<i>R</i>	
npED 👻 🔟	Debug 🕤	• 🔝 F	Profile	
				
vrativ				
лац	ve			
olvir	าต			
	SK			
ssu	es			
earch				
		-		
		_		
	Link			
rany/org	LINK	٦		
SHA	link			
🗾 🙆 In	ternet	ᆗ	•	
Front	« 🕒 🖉	9:5	0 AM	
	,			



Benefits of RisklE

. Increase the production of risk values by improving efficiency

. Maximize the use of technical and financial resources by minimizing the duplication of effort.

. Facilitate the sharing and dissemination of risk information

For more Information

Please visit: www.allianceforrisk.org

Or contact Andrea Wullenweber Toxicology Excellence for Risk Assessment (TERA) Ph:425-486-1769 Wullenweber@tera.org



www.allianceforrisk.org