

# **CTS User Manual**

# **Health Risk Assessment**

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# Introduction

The CTS Health Risk Assessment (HRA) program provides a user-friendly system to record, manage, and report information on workplace risks for hazards. By identifying risks and hazards in the workplace, determining who might be harmed and how, and evaluating existing control measures, HRA can determine if hazard risk management is sufficient or whether more should be done to protect workers.

Using this software correctly can help ensure your company will:

- Comply with federal, state, local, and internal workplace health risk assessment requirements
- Identify and prioritize potential risks in the workplace as part of a comprehensive hazard assessment program

With HRA, your organization will be able to save time and money by reducing risks and hazards, and providing fast, easy, and secure access to related records.

# Chapter 1 – What is Health Risk Assessment?

Health Risk Assessment involves reducing workplace risks of hazards so that they are understood and *As Low As Reasonably Practical* (ALARP).There is a continuing duty to keep risks and possible risk reduction measures under review to take account of changing circumstances, advances in technology, and new information. Good practice may change over time, and new technology may make a higher standard reasonably practical. Application of the **ALARP** principle means challenging the adequacy of existing measures and considering new practical measures.

The CTS HRA program harnesses the power to track these risks and/or hazards to help eliminate or control them through appropriate procedures.

# **Routine vs. Non-routine Assessments**

There are *two types* of HRA surveys to capture your work in a meaningful manner: Routine assessments (recurring reviews over time) and Non-routine assessments (one-time-event) surveys. This document primarily focuses on the Routine assessments since the level of information captured for a one-time-event survey can vary dramatically. For example, if you are simply doing a review of an indoor air quality complaint, survey information could be limited to a scope and a summary of findings.

Routine surveys are much more uniform in nature and tend to capture data based on company policies surrounding risk reviews. Routine surveys

capture a baseline set of data and then perform re-evaluations of the same process or program over time to validate and update the baseline.

CTSIH / CTS081: AU-Health Risk Assessment Survey /							
CTS081 HRA Survey Detail							
	-						
Cancel Save and Contin	ue						
Survey To Copy	Select Survey to Copy Clear Copy						
AU or Non-Routine	AU-Routine						
Assessment Unit (AU) to Evaluate	AU-Routine Au						
	Non-Routine						
AU Title							

# **Key Steps to Perform HRAs**

The key steps in the Health Risk Assessment process are outlined below:

1. Form a team to identify a list of potential health hazards for your company, ultimately creating a Corporate Health Hazards Inventory (Corporate HHI). Populate as much health risk detail as you can as part of the Corporate HHI list. The Corporate HHI is the foundation for decision-making and automatic data population into site level health risk assessment surveys.

There are significant benefits to creating and populating detail in the Corporate HHI prior to beginning your site health risk assessments. Performing this step is highly recommended but not mandatory.

The benefits for creating a Corporate HHI are:

- Creation of corporate standards that support the Industrial Hygienist trying to make good risk decisions for your company.
- Ability to defend in a meaningful manner the limiting of potential hazards to a sub-set for the performance of full health risk assessments at the operation level. Using the Corporate HHI your company can determine from a hazard perspective the risk posed to the company using a Risk Assessment Matrix (RAM rating), and then determine the level of RAM for which hazard reviews should

be done in more complete manner at the Site-operation level.

 Ability to automatically populate data fields during data entry based on corporate standards – yet fully editable as needed at the survey level.

2. Perform the site level health risk assessment surveys collecting three main types of information:

- Survey and contact information describing the scope of the assessment and key contacts such as team members or line representatives.
- Health Risk Assessment (HRA) Information providing relevant detail for each hazard such as frequency of exposure, duration of exposure, existing controls, etc., and the associated risk about the exposure potential.
- Remedial or compliance actions required to achieve the level of exposure risk potential that has been established by company policy.

# **Glossary of Terms**

Before using the HRA program, it is helpful to become familiar with some fundamental information used to describe Health Risk Assessment records. These terms play a key role in how data is entered, organized, and reported.

## Company

The Company ID field is used to designate the company that the associated with the Assessment Unit. This usually represents a large enterprise or consortium of business units.

#### Site

The Site field typically represents a high-level geographical description of where the Assessment Unit is located. You can draw lines on a map to identify where the Site is located, whether it be a specific plant, a pipeline, a business unit, or a series of burial grounds.

## **Assessment Unit**

The Assessment Unit (AU) identifies projects, programs, business units, or other key processes within a Site for which routine health risk assessment survey will be performed. 'Routine' means more than one time on the same Assessment Unit. Assessment units often associate geographic and business unit processes together. The assessment unit is intended for core functions or processes you want to review for hazard identification, and then re-review at a later point in time. Often the frequency can be 3-5 years.

Examples of AUs might include:

- Cooling water treatment facility work
- Refinery Hydrocracking unit work
- Waste treatment operations
- Lead abatement/painting/blasting activities
- Cooling water treatment work

Put some quality thought behind how AUs will be created for your Site(s). If you intend to use the same assessment unit name at multiple sites, it is recommended you prefix the Assessment Unit title with your site code. This will help filtering and sorting when you begin generating multi-site reports at the corporate level.

## HRA (Health Risk Assessment)

HRAs (alias Health Risk Assessments) are hazard specific evaluations performed as part of an HRA survey. There are four types of HRAs that can be performed as part of a survey:

 Assessment Unit HRA - hazard risk assessment performed on hazards that cross all aspects of the survey at the same basic risk levels and which are not best suited to performance in one of the other HRA categories. Examples of this type of hazard may be psychological hazards.

## Health Hazard Inventory (HHI)

A Health Hazard Inventory (HHI) represents a list of potential hazards used in the performance of Health Risk Assessments. The Corporate HHI is derived from the Master Hazards List. It is the most important HHI list in terms of benefit to the end-user as the information in the Corporate HHI is used as an autofill for certain data fields when an HRA survey record is entered. The Site HHI and the Survey HHI are built automatically by the system as you select hazards into your survey to perform risk evaluations.

Below is a description and graphical view of the HHI's that are part of the Health Risk Assessment process.

1. **Corporate HHI** – system level list of hazards for your CTS installation.

2. **Site HHI** – site specific sub-set of the corporate HHI. If you are implementing at a single site, the Corporate and Site HHI lists will be very similar if not the same.

3. **Survey HHI** – hazard list specifically related to the survey area that where you are performing the health risk assessment process.

The intent of the HHI lists is to allow for development of corporate strategies for rating hazards at different levels to determine ultimately which hazards need to have a full risk evaluation performed. By their nature, the HHI lists will narrow down the number of hazards you will 'see' when working at a specific level. Additionally, if you choose to add a hazard at a lower level, the upper level will automatically be created to ensure all levels are properly represented.



# Chapter 2 – HRA Surveys

HRAs aka Health Risk Assessments are hazard specific evaluations performed as part of an HRA survey. *Assessment Unit HRA* is a hazard risk assessment performed on hazards that cross all aspects of the survey at the same basic risk levels and which are not best suited to performance in one of the other HRA categories. An example of this type of hazard is psychological.

This chapter provides a description of how to use the Health Risk Assessment (HRA) system.

# **CTS081: AU-Health Risk Assessment Survey**

## **Create New Survey**

From CTS Main Menu, click Exposure Assessment button.



#### Click CTS081: AU-Health Risk Assessment button.

Main Menu Metrics 📀 Portal 📀 Exposure Assessment 📀 IH	Programs 🛇 JHA 🛇 Checklist 📀 Medical Surveillance 📀 Injury-Illness 😋
Home 🏠	
🕑 What Would You Like To Do	
• Sample Entry	2
Sample Reports	
Health Risk Assessment (HRA) Entry	
CTS068: HRA Sample Status	CTS081: AU-Health Risk Assessment Survey
Track and complete sampling for HRA	Create or edit a health risk assessment survey
CTS094: Peer Review and Lock HRA Survey	CTS108: Assessment Unit (AU-SEG) List
Peer review a health risk assessment survey	Create an AU-SEG for exposure risk Unloc
CTS124: Post Approval Notes and Attachments	CTS152: HRA Evaluation Entry and Adjustments
Add notes and attachments to an HRA survey after it is locked	HRA Evaluation Entry and Adjustments Check
CTS156: Worker Roster Entry and Adjustments	B
Direct Entry of an AU Work Roster for Open or Approved Surveys	

#### Click Create New Survey button.

CTSIH / CTS081: AU-I	Health Risk Assessment	Survey			13	
Create New Survey	Select Survey to Edit Attachments	Notify Flag Pee	er Review Edit Keys	Report		Delete Survey
< Previous	Selected Item	Scope Selected Item: No	HRA List Item Selected - Please Create	Conclusions or Select a Record :	Other	Next >

Use pulldown menu to select AU or Non-Routine option.

Verify *IH-Safety Officer, Site, and Company* are auto populated. Choose a *Survey Date* using the calendar button.

#### Click **Select AU** button.

CTSIH / CTS081: AU-Health Risk Assessment Survey / CTS081 HRA Survey Detail						
Cancel Save and Continue						
Survey To Copy	Select Survey to Copy Clear Copy					
AU or Non-Routine	AU-Routine •					
Assessment Unit (AU) to Evaluate	Select AU					
AU Title						
Survey Date	08/31/2022					
IH-Safety Officer	COX, CHARITY (CHARITY ) • Select Person					
Site	SITE (SITE) •					
Company	COMPANY (COMPANY) •					

#### Click blue **Select** text to choose an AU.

ζ									
New Item									
Q ~         Go         Rows         100         \$         Actions ~									
1 2 62									
1 - 2 of 2									
1 - 2 of 2	AU ID ↑≞	Title	Location	Loc-2	Loc-3	Organization	Activity list	Site	Company
Select	<b>AU ID</b> ↑≞ 0000002	Title ASSESSMENT UNIT (AU-SEG)	Location	Loc-2	Loc-3	Organization	Activity list	Site SITE	Company COMPANY

Field	Description
Survey To Copy	Once surveys have been entered, a user can choose to select a survey to copy. Otherwise, skip this field.
AU or Non-Routine	Select the type of survey.
Assessment Unit (AU) to Evaluate	Select an AU to evaluate.
AU Title / Non-Routine Survey Title	Selecting an AU will autofill this field. Selecting <i>Non-Routine</i> allows a custom title to be entered.
Survey Date	Enter the survey date.
IH-Safety Officer	Select the IH-Safety Officer assigned to this survey.
Site	Select the site associated with this survey.
Company	Select the company associated with this survey.

#### Click Save and Continue button.

CTSIH / CT	TS081: AU-Health Risk Assessment Survey / 81 HRA Survey Detail
Cancel	Save and Continue

**Note:** Alternatively, to save time, a survey can be copied by clicking **Select Survey to Copy** button. *This route is an option if previous surveys have been created and are available to copy.* 

CTSIH / CTS081: AU-Health Risk Assessment Survey CTS081 HRA Survey Detail	
Cancel Save and Continue	
Survey To Copy	Select Survey to Copy Clear Copy
AU or Non-Routine	AU-Routine •
Assessment Unit (AU) to Evaluate	Select AU
AU Title	
Survey Date	08/31/2022
IH-Safety Officer	COX, CHARITY (CHARITY ) • Select Person
Site	SITE (SITE) •
Company	COMPANY (COMPANY) •

Use pulldown menu to toggle between **Approved Surveys** and **Archived Surveys**.

Then, click purple Select For Copy text. Fields will be auto populated.

< Return Without	Selection																
Approved Surveys Archived Surveys Archived Surveys Go Rows 100  Actions  Actions																	
	AU	HRA Survey	Date	Status	Title	IH-Safety Officer	IH Badge	Flagged For Peer Review	Line-Field Contact	Location	Loc-2	Loc-3	# HRA	Activity List	Organization	Site	Company
Select For Copy	0000003	HRA00004	23- MAY-2022	APPROVED	RADIO	SYSTEM	ITBADGE	Yes		-	-	-	1	-	-	SITE	COMPANY
1 - 1 of 1																	

Click Save and Continue button.



## Selected Item

On *Selected Item* screen, verify survey details then click **Next** button to proceed to *Scope*.

CTSIH / CTS081: AU-I	Health Risk Asse	essment S	urvey						
Create New Survey	Select Survey to Edit ASSESSMENT UNIT (AU-SEG)	Worker Roster	Attachments	Notify Flag Peer Review	Edit Keys	Report		[	Delete Si
	$\sim$				Jump To		(Save changes	before you jump)	
< Previous	Selected It	em Selected Ite	Scope em: AU: 0000002 S	HRA List	Conclusions	r (AU-SEG) :	Other	Next >	
	AU or Non-Routine	AU-ROUTINE							

Field	Description
AU or Non-Routine	Type of survey
Assessment Unit (AU)	AU ID number
HRA Survey	Survey HRA ID number
Title	AU title
Status	Status of survey
Evaluation Date	Date of survey

# Scope

	Answer	Scope of	questions.	Click	Save	button.
--	--------	----------	------------	-------	------	---------

CTSIH / CTS081: AU-	Health Risk Assessmer	nt Survey			N	
Create New Survey	Select Survey to Edit Worker Ros	ter Attachments	Notify Flag Peer Review	Edit Keys Report	4	Delete Surv
HRA00003 >	ASSESSMENT UNIT (AU-SEG)					
< Previous	Selected Item	Scope	HRA List vey: HRA00003 02-MAY-2022 ASSE	Jump To Conclusions SSMENT UNIT (AU-SEG) :	• (Save changes b Other	efore you jump) Save >
	Scope of Evaluation Description (1	nclude tasks and key	jobs or groups)			<u>li</u> te

Field	Description
Scope of Evaluation	Describe tasks, key jobs, or groups
Review Team or People Participating in Evaluation	List people involved
List Interviews Performed For Review Process	List interview details
Additional Comments	Enter any additional pertinent data

## **HPN Screen**

Click the **HPN Screen** button.

Create New Survey	Select Survey to Edit	HPN Screen	Worker Roster	Attachments	Notify	Flag Peer Review	Edit Keys	Report
				· · · · · · · · · · · · · · · · · · ·				

#### Click the Add Product or Chemical button.

CTSIH / CTSO	CTSIH / CTS081: AU-Health Risk Assessment Survey / CTS081 - Hazard Priority Number (HPN) Screen						
< Return	n To AU-Health Ris	ik Assessmer	nt Survey HPN	N Screen Worker Roster Attachments Notify Flag Peer Review			
AU	HRA Survey	Title	Location				
0000006	HRA00007	XYXYXY	WIDGET SHOP				
Add Pr	oduct or Chem	ical U	pload Product Li	st         Product Ingredients         Product Synonyms         SDS List         HPN Determination			

#### Click blue **Select** text to choose a Product or Chemical.

< Return Without Selection	Return Without Selection           ewitten						
Qv	Go Roves 100 ¢ Actions ~						
1 - 100 of 5,361 🕨	6						
	Product-Chemical-Hazard	Туре	CAS #	RECID			
Select	(3-MERCAPTOPROPYL)-TRIMETHOXYSILANE	CHEMICAL	4420-74-0	115			
Select	(DIISOPROPYLAMINO)ETHANOL	CHEMICAL	96-80-0	116			
Select	(R)-(+)-1,2,4-BUTANETRIOL	CHEMICAL	70005-88-8	117			
Select	(S)-(-)-1,2,4-BUTANETRIOL	CHEMICAL	42890-76-6	118			
Select	(TRIDECAFLUORO-1,1,2,2-TETRAHYDROOCTVL)TRIETHYOXYS	CHEMICAL	51851-37-7	119			

Use edit pencils to edit ingredients, synonyms, SDS, HRA hazard, or HPN.

ļ	Add Product or Chemical Upload Product List Product Ingredients Product Synonyms SDS List HPN Determination															
Q	ick Edit - I	IPN														
Q	~	G	e Rows	100 0 Acti	ons 🗸											
1-3	of 2															
		Product-Chemical Name	Product RECID	Product CAS#	Edit Ingredients	Product Ingredients	Edit Synonyms	Edit SDS	Edit HRA Hazard	HRA Hazard	HRA RECID	HRA CAS #	HPN Rating	Edit HPN	Do HRA	HRA Eval List
0		(3-MERCAPTOPROPYL)- TRIMETHOXYSILANE	115	4420-74-0	1	(1,5-CYCLOOCTADIENE) RUTHENIUM (II) CHLORIDE (L:100% AVG:100% H:100%)	1	1	1	(3-MERCAPTOPROPYL)- TRIMETHOXYSILANE	115	4420-74-0		1		-
۲		(DIISOPROPYLAMINO)ETHANOL	116	96-80-0	1		1	1	1	(DIISOPROPYLAMINO)ETHANOL	116	96-80-0		1		

Click the **CTS081: AU-Health Risk Assessment Survey** / breadcrumb to return to the HRA Survey.

## HRA List

CTS081: AU-I	Health Risk As	sessment	Survey								
Create New Survey	Select Survey to Edit	HPN Screen	Worker Roster	Attachments	Notify	Flag Peer Review	Edit Keys	Report			
Flagged Ready For Peer R	eview GoTo CT5094										
							$\frown$		Jump To	(Save changes before	re you jump)
< Previous		Select	ted Item		Scope H	IRA List: AU: 0000006 !	HRA List	7 20-MAR-20	Conclusions	Other	Save >

#### **Hazard Evalution**

CTSII	н / S08	31: Al	J-Healt	h Risk A	ssess	smer	nt Sur	vey							
Cre	eate N	ew Surve	y Select	Survey to Edit	HPI	N Screen	Wor	rker Roster	Attachmen	its	Notify	FI	ag Peer Review	Edit Keys	Report
															Jui
						$\checkmark$			$\checkmark$						Canaluria
	< Pre	evious			Se	elected ite	em		Scope HRA	List: Al	: 0000	007 Su	HKA List	9 10-MAY-2023 TE	STING :
Cri	< Pre	evious ew Haza	d Evaluation	Сору На	Se zard Evalu	uation	em	azard Evaluation	Scope HRA Detail	List: AU	: 0000	007 Su	HRA List	9 10-MAY-2023 TE	STING :
Cr	< Pre eate N k Edit (0	ew Hazar QE) - Contr	rd Evaluation	Copy Ha	Se zard Evalu (QE) - PPE	uation	Edit H	azard Evaluation	Scope HRA Detail	List: AU	mples	007 Su	HKA LIST rvey: HRA00009	9 10-MAY-2023 TE	STING :
Cr Quic	< Pre eate N :k Edit (0	ew Hazar QE) - Contr	rd Evaluation	Copy Ha nts Quick Edit G	Se zard Evalu (QE) - PPE	uation	m Edit H	azard Evaluation	Scope HRA Detail	List: AU	mples	007 Su	HKA LIST rvey: HRA00005	9 10-MAY-2023 TE	STING :
Cr Quic Q \	< Pre eate N :k Edit (C ~ of 1	ew Hazai	rd Evaluation	Copy Ha	Se zard Evalu (QE) - PPE	uation	m	azard Evaluation	Scope HRA Detail	List: AU	mples	007 Su	HKA LIST	9 10-MAY-2023 TE	STING :
Cri Quic Q \ - 1 (	< Pre eate N k Edit (0 of 1	ew Hazar 2E) - Contr Edit Eval	rd Evaluation ols and Comme Eval-HRA ID	Copy Ha nts Quick Edit Gr HRA Hazard	CQE) - PPE Ac RECID	uation ctions ~	m Edit H	azard Evaluation	Scope HRA Detail HPN Rating	Link Sa	mples	IGR	HKA List rvey: HRA00005 DP HRA Report	0 10-MAY-2023 TE	Sampling Status

Create New Hazard Evaluation Edit Hazard Evaluation Detail Link Samples AOP HRA Report																							
Qu	ick Edit (0	QE) - Contro	ols and Comme	nts Quick Edit	(QE) - PPE																		
Q	Q∼ Go Actions ∨																						
1-	of 1																						
		Edit Eval	Eval-HRA ID	HRA Hazard	RECID	CAS #	AU	Work Activity	HPN Rating	SR	ER	CR	IGR	Interpretation	Controls Effective	Sampling Status	# HRA Linked Samples	Link Samples	OEL	Unit	Assessment	Result Type	Work Description
0		1	0000018	1-BUTANOL	00148		0000007	WA0000040 EEE		1	4	3	15	YELLOW	No - Unacceptable	Open		1	20	PPM	PERSONAL AIR	8 HOUR TWA	TESTING

Click Create New Hazard Evaluation button

Enter HRA Hazard Detail including *HRA Hazard*, *Product-SDS*, *Work Activity*, *Exposure Group Category*, *Description of Task and How the Hazard Is Involved*, *Primary Hazard Source*, and *Additional Hazards and Materials Grouped into HRA Hazard*.

CTSIH / CTSC	CTS081: AU-Health Risk Assessment Survey / 081 - HRA Hazard		
Cance	Save and Continue		
	HRA Hazard	1-BUTYL ACETATE	Select Hazard From OEL List
	Comparision OEL	PERSONAL AIR STEL OEL=200 PPM	
	Product-SDS	1,1,1-TRIS(HYDROXYMETHYL)ETHANE	Select Product From Master List
	Work Activity	EEE(WA0000040 AU0000007) •	Select Work Activity
	Exposure Group Category	TEST FIELD 10 11 (1112 011) •	Select EGC
	Description of Task and How the Hazard Is Involved	Description of specific hazard as it relates to a task.	
		55 of 4000	<i>li.</i>
	Primary Hazard Source	CONTAMINATION Select Primary Source	
	Additional Hazards and Materials Grouped into HRA Hazard	Additional hazard information here.	
		35 of 1000	h.

#### Hazard Evaluation Columns

Field	Description
Edit Eval	Click the pencil to quickly edit an evaluation.
Eval-HRA ID	Unique identification number
HRA Hazard	Name of hazard
RECID	Unique identification number
CAS #	The Chemical Abstracts Service (CAS) Registry number
AU	AU ID number
Work Activity	Work activity details

SR	SR value
ER	ER value
RAC	RAC value
CR	CR value
IGR	IGR value
Interpretation	Interpretation of evaluation
Controls Effective	Determination of controls' effectiveness
Sampling Status	Status of sampling
# HRA Linked Samples	Number of samples currently linked to an evaluation
Link Samples	Click the pencil to quickly link samples.
OEL	Occupational exposure limit
Assessment	Assessment type
Result Type	Result type

Click Select Hazard From OEL List button to select HRA Hazard.

Click Select Product From Master List button to select Product-SDS.

Click **Select Primary Source** button to select *Primary Hazard Source*.

Use pulldown menu to select Work Activity.

Enter Description of Task and Additional Hazards in text areas.

Click Save and Continue button.

CTSIH / CTSC	CTS081: AU-Health Risk Assessment Survey / 081 - HRA Hazard		
Cance	Save and Continue		
	HRA Hazard	1-BUTYL ACETATE	Select Hazard From OEL List
	Comparision OEL	PERSONAL AIR STEL OEL=200 PPM	
	Product-SDS	1, 1, 1-TRIS(HYDROXYMETHYL)ETHANE	Select Product From Master List
	Work Activity	EEE(WA0000040 AU0000007) •	Select Work Activity
	Exposure Group Category	TEST FIELD 10 11 (1112 011) •	Select EGC
	Description of Task and How the Hazard Is Involved	Description of specific hazard as it relates to a task.	
		55 ×F 1000	li.
	Primary Hazard Source	CONTAMINATION Select Primary Source	
	Additional Hazards and Materials Grouped into HRA Hazard	Additional hazard information here.	
			1.
		35 ef 1000	

Field	Description
HRA Hazard	Intended to represent the exposure agent being monitored
Product-SDS	Optional field - select product(s) associated with hazard
Work Activity	Choose a work activity
Description of Task and How the Hazard Is Involved	Enter descriptive details
Primary Hazard Source	Helpful terms for hazard identification i.e., fumes, dust, vapors, etc.
Additional Hazards and Materials Grouped into HRA Hazard	Additional hazards listed here

#### Click Next button.

CTSIH / CTS081: AU-Health Risk Assessment Surve CTS081: Edit Hazard Evaluat	, on Detail			ß			
< Previous	em Description of Work Sele	Hazard Controls	Risk Rating 2 Survey: HRA00003	Jump T Sample Strategy 1 - BUTYL ACETATE :	o Sort Groups	(Save change     Other	s before you jump) Next >
HI HRA HI Surv	A ID         0000008           card         1-BUTYL ACETATE           y ID         HRA00003           Title         ASSESSMENT UNIT (AU-SEG)						

Enter text into *Description How Hazard Involved In Work* and *Describe Exposure Frequency and Duration* text areas.

Use pulldown menus to select *Exposure Frequency*, *Exposure Duration*, and *Typical Amount* options.

CTSIH / CTS081: AU-Health Risk Assessment Survey / CTS081: Edit Hazard Evaluation Detail						
< Previou	S Selected Item	Jump To • (Save Description of Work Hazard Controls Risk Rating Sample Strategy Sort Groups Other Description of Work: AU: 0000002 Survey: HRA00003 1-BUTYL ACETATE :	changes before you jump) Save >			
	Description How Hazard Involved In Work	description	h.			
	Exposure Frequency Exposure Duration					
	Describe Exposure Frequency and Duration		li			
	Typical Amount	$\odot$				

Field	Description
Description How Hazard Involved In Work	Details of how hazard is involved in work
Exposure Frequency	Select exposure frequency
Exposure Duration	Select exposure duration
Describe Exposure Frequency and Duration	Enter any additional details about frequency and duration

Typical Amount

Enter a typical amount

Enter text into *Description* text areas.

Click checkboxes to select controls.

Use pulldown menus to select PPE Usage options.

#### Click Save button.

CTSIH / CTS081: AU-Healt CTS081: Edit Ha	h Risk Assessment Survey / azard Evaluation De	tail							
< Previous	Selected Item	Description of Work	Hazard Controls Hazard Controls: AU: 000	Risk Ra	ting Sam ey: HRA00003 1-BU	Jump opie Strategy ITYL ACETATE :	To Sort Groups	(Save changes bel     Other	ore you jump) Save >
Hazard Controls									
	Description Administrative Controls							1.	
	Description of Engineering Controls							1	
		Closed Process			Walk-In-Hood			General Ventilation	
		Wet Method			Glove Box			Biosafety Cabinet	
		Lab Hood			Canopy Hood			Local Exhaust	Co Co
		Enclosing Hood			Snorkel				
		PPE Usage							
		Respirator		٥	Select Respirator				
		Cartridge		0	Select Cartridge		• Cartride	ge Changeout	G
		Hands		٥	Select Hand/Arm				
		Eye/Face		٥	Select Eye/Face				
		Clothing		0	Select Clothing				
		Hearing		0	Select Hearing				
		Head		٥	Select Head				
		Foot		0	Select Foot				
D	Description of PPE Selection and Use							11.	
	Hierarchy of Controls Discussion							11.	
	Recommended Additional Controls							li.	

Field	Description
Description Administrative Controls	Enter description of admin controls
Description of Engineering Controls	Enter description of engineering controls
Controls Checkboxes	Select all controls that apply

PPE Usage	Select all utilized PPE
Description of PPE Selection and Use	Enter description
Hierarchy of Controls Discussion	Enter notes
Recommended Additional Controls	Enter recommendations

Use pulldown menus to select *Are Exposure Controls and PPE Effective?*, *Severity Rating*, *Exposure Rating*, and *Certainty Rating* options.

Enter text into *Information Gathering (IG) Rating, Interpretation, and Rating Notes or Comments* text fields.

#### Click Save button.

CTSIH / CTS081: AU-Health Risk Assessment Survey / CTS081: Edit Hazard Evaluation Detail								
					Л	Imp To	(Save changes	before you jump)
				•	•	•	•	
< Previous	Selected Item	Description of Work	Hazard Controls	Risk Rating	Sample Strategy	Sort Groups	Other	Save >
			Risk Rating: AU: 000	0002 Survey: HRA0000	3 1-BUTYL ACETATE :			
	•							
	Are Exposure Controls and PPE Effective?	Yes - Acceptable	t Reducing and Keeping E	xposure to an Acceptable	Level)			
	Severity Rating				() nte	nded to describe inherent p	property of the hazard)	G
	Exposure Rating			probability of	exposure concentration as	compared to the OEL)		
	Comparision OEL	PERSONAL AIR 8 HOUR TWA	DEL=150 PPM	-	Select OEL			
	Certainty Rating		ertainty of your exp	osure rating decision)				
	Information Gathering (IG) Rating	Calculated Value-(sr+	er*cert=ig) higher value inc	licates a greater need for	additional information to in	crease certainty or validate	or reduce exposure	
	Interpretation		Represents the IG rating by	a Color Group				
	Rating Notes or Comments						11.	

Field	Description
Are Exposure Controls and PPE Effective?	Answer: Yes – Acceptable, No – Unacceptable, or Undecided
Severity Rating	Rate 1 – 5 to describe inherent property of the hazard
Exposure Rating	Rate 1 – 5 to describe probability of exposure concentration as compared to the OEL
Comparison OEL	Select OEL from list
Certainty Rating	Rate 1 – 3 to describe certainty of rating exposure decision

Information Gathering (IG) Rating	Calculated value indicating level of need for additional information
Interpretation	Represents the IG rating by a Color Group
Rating Notes or Comments	Any additional data

Use pulldown menu to select Sample To Meet Requirements option.

Enter text into Sampling Notes or Strategy text area.

Click checkbox(es) to select samples. Click buttons to link or unlink samples. Click **Save** button.

CTSIH / CTS081: CTS081: E	AU-Health Ri dit Haz	isk Assessment Su ard Evalua	<sup>rvey /</sup> tion Deta	il											
									_	Jum	то		+ (Save changes b	efore you jump	)
< Previous	6	Se	elected Item	Description of Wor	k Hazard Co Sample Stra	ontrols Ri tegy: AU: 0000002	Survey: H	IRA0000	Sample S	Strategy ACETATE :	Sort Gro	pups	Other	Save >	
Please Indica	te if Samplin	g is Required or I	Not Required												
	Sampling Notes or Strategy here.														
Link Samples     Click To Link Sam	Link Samples  Clink To Link Samples To HRA  Unlink Checked Samples														
< 0 ×		60	Rows 100	Actions											
1 - 1 of 1			100												
Survey ID	Sample ID	Sample Date ↓=	Assessment	Result Type	IH-Safety Officer	Agent	Result	Unit	Location	Loc-2	Loc-3	Sample AU	Job Title	Work Activity	Job Category

Field	Description
Sample to Meet Requirements	Select Not Required or Required
Sampling Notes or Strategy	Enter any additional data

Use pulldown menus to select *Work Activity, Job Category, and Task Category* options.

#### Click Save button.

CTSIH / CTS081: AU-Health Risk CTS081: Edit Hazar	Assessment Survey / d Evaluation Deta	ail						
					Ju	mp To	+ (Save chang	es before you jump)
	<b>S</b>	<b>Ø</b>	<b>Ø</b>	<b>Ø</b>	$\checkmark$	•	•	
< Previous	Selected Item	Description of Work	Hazard Controls Sort Groups: AU: 000	Risk Rating	Sample Strategy	Sort Groups	Other	Save >
	Work Activity	0				Select Work Activity		
	Job Category		$(\cdot)$		Select Job Cate	egory		
	Task Category		() (i)		Select Task Cat	regory		
			Ŭ					

Field	Description
Work Activity	Select work activity
Job Category	Select job category
Task Category	Select task category

Click Select Product button to select Product SDS.

Enter text into *Primary Hazard Source, Additional Hazards and Materials Grouped into HRA Hazard* text area.

Use calendar button to select Last Review Date.

Click Finish button.

			Jum	o To	+ (Save chan	ges before you jump)
Previous	Description of Work Hazard Controls Other: AU: 00000	Risk Rating 02 Survey: HRA00003 1-I	Sample Strategy	Sort Groups	Other	Finish >
Product SDS Primary Hazard Source	TEST	(intended for one or a fee	Select Product			
Additional Hazards and Materials Grouped into HRA Hazard						
Last Review Date	06/17/2022				li.	6

Field	Description
Product SDS	Select product
Primary Hazard Source	Enter key word(s)
Additional Hazards and Materials Grouped into HRA Hazard	Enter additional data
Last Review Date	Enter review date

Click **Quick Edit (QE) – Controls and Comments** button to edit controls and comments for a hazard evaluation.

Create Ne	ew Hazaro	d Evaluation	Copy Hazard Ev	aluation	Ed			
Quick Edit (QE) - Controls and Comments Quick Edit (QE) - PPE								
Q~	Q ~ Go Actions ~							
1 - 2 of 2								
	Edit Eval	Eval-HRA ID	HRA Hazard	RECID	CAS			

To edit a column, click on the entry directly or click the < > symbol. Click < **Return To HRA List** button.

< Return To HI To edit a colum	< Return To HRA List To edit a column dick on the entry directly, or click the <> symbol								
Q~	Q v 60 Rows 100 + Actions v								
1 - 2									
Eval-HRA ID	Full Screen	Description How Hazard Involved In Work	Description of Administrative Controls		Description of Engineering Controls	$\sqrt{2}$	Hierarchy of Controls Discussion		
0000002	< >	test							
0000008	<>	description							
1 - 2									

## Click Quick Edit (QE) – PPE button.

Create New Hazard Evaluation	Copy Hazard Eva	aluation	Ed
Quick Edit (QE) - Controls and Comments	Quick Edit (QE) - PPE	tions ~	
Edit Eval-HRA Eval ID	HRA Hazard	RECID	CAS

*To edit a column, click on the entry directly or click the < > symbol* (opens a new screen).

< Return To HRA List									
Q. ✓ Go Rows 50 \$ Actions ✓									
1 - 2		Л							
Eval-HRA ID	Material	Full Screen	Resp	Respirator	Cart	Cartridge	Glov worn	Hand/Arm	
0000002	1-BROMOPROPANE	< >	-	< >	-	< >	-	<>	

Click < Return To HRA List button.

#### Click Save button.

]				
	Jump To	(Save changes b	efore you jump)	
	•	•		1
HRA List	Conclusions	Other	Save >	
: HRA00003 02-MAY-2022 AS	SESSMENT UNIT (AU-SEG) :			
				)elete Che

#### Conclusions

On *Conclusions* screen, enter text into *Summary and Conclusions* and *Recommendations* text areas.

#### Click Save button.

CTSH / CTS081: AU-Health Risk Assessment Survey								
Create New Survey	Select Survey to Edit Worker R ASSESSMENT UNIT (AU-SEG)	oster	Notify Flag	Peer Review Edit Keys	Report		Delete Survey	
< Previous	Selected Iter	n S Conclusio	<b>O</b> icope ins: AU: 0000002 Su	HRA List Vey: HRA00003 02-MAY-2022 A1	Conclusions	(Save changes befo     Other	re you jump) Save >	
	Summary and Conclusions Recommendations	Summary and survey conclu 31 of 2000 Recommendations going for	sions. ward			lh. III	lş.	

Field	Description
Summary and Conclusions	Enter summary and conclusions
Recommendations	Enter recommendations for going forward

#### Other

Click Select Person button to change Line-Field Contact.

Click Select Location button to select Location.

Click Select Org button to select Organization.

Click Finish button.

			Jump To	(Save changes before	you jump)
Selected Item	Scope	HRA List	Conclusions	Other	Finish >
	Other: AU: 0000002 Surv	ey: HRA00003 02-MAY-2022 ASSE	SSMENT UNIT (AU-SEG) :		
Line-Field Contact ITBADGE	> Select Person	SYSTEM, INITIAL			N
Organization		Select Org	Clear		6

Field	Description
Line-Field Contact	Select person as contact
Location	Select location
Organization	Select organization

## **Worker Roster**

Select an existing survey to edit. Click Worker Roster button.

CTSIH / Là CTS081: AU-Health Risk Assessment Survey							
Create New Survey HRA00003 >	Select Survey to Edit Wor ASSESSMENT UNIT (AU-SEG)	ker Roster Attachments	Notify Flag Peer Review	Edit Keys Report		Delete Survey	у
				Jump To	(Save changes b	pefore you jump)	
	•	•	•	•	•		
< Previous	Selected Item	Scope	HRA List	Conclusions	Other	Next >	
		Selected Item: AU: 0000002 Selected Item: AU: 00000002 Selected Item: AU: 00000002 Selected Item: AU: 0000002 Selected Item: AU: 00000002 Selected Item: AU: 00000002 Selected Item: AU: 0000000000000000000000000000000000	urvey: HRA00003 02-MAY-2022	ASSESSMENT UNIT (AU-SEG)	:		

#### Click Add Worker w/Date button.

Set End Date For Checked Records						
Q ~ Go						

Click **Select Person** button to select *Worker*. Click **Select Job Title** to select *Job Title*. Use pulldown menu to select *Work Activity*. Click **Select Org** button to choose *Organization*. Use calendar buttons to select *Approximate Start* and *Approximate End* dates.

#### Click Save and Continue button.

CTSIH / C	стs081: AU-H 81: Add	ealth Risk Assessment Survey Worker w/Date	/ / CTS08	11 - Worker Roster /
AU ID	HRA Survey	Title	Status	
0000002	HRA00003	ASSESSMENT UNIT (AU-SEG)	OPEN	
Cancel	Save and	Continue		
			Worker	> Select Person
			Job Title	Select Job Title Clear
		Woi	rk Activity	Select Org Clear
Approximate Start			nate Start	
		Approxi	mate End	ă
				$\checkmark$

Field	Description
Worker	Select person as worker
Job Title	Select job title
Work Activity	Select work activity
Organization	Select organization
Approximate Start	Select estimated start date
Approximate End	Select estimated end date

Click **CTS081: AU-Health Risk Assessment Survey** / breadcrumb to return to main survey screen.



# Attachments

#### Click Attachments button.

CTS081: AU-F	Health Risk Assessment	Survey			L2	
Create New Survey HRA00003 >	Select Survey to Edit Worker Roster ASSESSMENT UNIT (AU-SEG)	Attachments	Notify Flag Peer Review	Edit Keys Report	]	Delete Survey
				Jump To	<ul> <li>(Save changes b</li> </ul>	efore you jump)
	•	•	•	•	•	
< Previous	Selected Item Selected	Scope Item: AU: 0000002 S	HRA List Survey: HRA00003 02-MAY-2022	Conclusions ASSESSMENT UNIT (AU-SEG	Other	Next >

#### Click Add Attachment button.

CTSIH / CTS081: AU-Health Risk Assessment Survey / CTS081 Attachment					
AU	HRA Survey	Title	Date	Status	
0000002	HRA00003	ASSESSMENT UNIT (AU-SEG)	02-MAY-2022	OPEN	
Add Attachment Edit Description					
<					

Click to browse local machine for a file to upload or drag and drop.

#### Click Save and Continue button.

Click Here To Browse And Choose A File, Or Press CTRL and Choose Multiple. After Selected, Click Save and Continue Select or drop files here.
Cancel Clear Load List Save and Continue

Click **CTS081: AU-Health Risk Assessment Survey** / breadcrumb to return to main survey screen.



# Notify

Select an existing survey. Click Notify button.

CTSIH / CTS081: AU-I	Health Risk Assessment S	Survey			L3	
Create New Survey HRA00003 >	Select Survey to Edit Worker Roster ASSESSMENT UNIT (AU-SEG)	Attachments	Notify Flag Peer Review	Edit Keys Report		Delete Survey
				Jump To	(Save changes b	efore you jump)
	•	•	•	•	•	
< Previous	Selected Item Selected I	Scope tem: AU: 0000002 S	HRA List Survey: HRA00003 02-MAY-2022	Conclusions 2 ASSESSMENT UNIT (AU-SEG)	Other	Next >

#### Click Add New Contact button.

Samp	e Survey Notification - Additional Contacts
Survey ID SID00005	Title         SAMPLE REQUEST TITLESAMPLE REQUEST TITLE
Add New (	Contact Edit Role of Contact
t IH, Sample	r and Peer Reviewer are automatically notified. List additional contacts to receive email

Enter *Role* and *Contact* options using **Select Role** and **Select Person** buttons. Click **Save and Continue** button.

Sample Survey Notification - Additional Contacts /	
Cancel Save and Continue	
Role Contact	IH-SAFETY OFFICER    Select Role  Select Person

When finished adding contacts, click < **Return to Survey** button.

Field	Description
Role	Select role
Contact	Select contact

# Flag Peer Review

Click Flag Peer Review button.

CTSIH / CTS081: AU-I	Health Risk Assessmen	t Survey			6		
Create New Survey HRA00003 >	Select Survey to Edit Worker Rost	er Attachments	Notify Flag Peer Review	e Edit Keys Report	]	Delete S	Survey
				Jump To	(Save changes b	oefore you jump)	
		•	•	•	•		
< Previous	Selected Item	Scope	HRA List	Conclusions	Other	Next >	
	Select	ed Item: AU: 0000002 S	urvey: HRA00003 02-MAY-202	2 ASSESSMENT UNIT (AU-SEG)	:		

Click the checkbox to the left of *Check To Indicate Survey Is Ready For Peer Review* text.

Use pulldown menu to select Peer Reviewer (if known).

#### Click Save and Continue button.

CTSIH / CT CTS04	1 - Pee	<sup>e Survey</sup> / r Review Detai	1			
Survey ID	Sample dat	2	Survey title	Sampler	IH	
SID00005	21-MAR-202	2 SAMPLE REQUEST TITLES	AMPLE REQUEST TITLESAMPLE REQUEST TITLE	IHLABMGR	SYSTEM	
Cancel	Save and	Continue				
		Peer Rev	iewer (if known)	rvey Is Ready	For Peer F	keview Select Person
	c	uestion	Answer			
	,	/hat is a peer review?	Formal peer reviews may have a procedure set of eyes on a record you will be keeping for	or set criteria pe or a long time ai	erformed by nd which co	another to make sure the requirements are met. Informal reviews are generally left up to the person who will do the review. In either case, a peer review represents a second uid become part of legal action related to exposure assessment and control.
	V C	/ho can do a peer review in Ipen Range?	To be selected as a peer reviewer in Open R	ange you must	have an ad	We account having access to CTB052 for peer review.

On main Sample Survey screen, red text is visible that reads "Flagged Ready For Peer Review".

CTSIH / CTS041: Sam	ple Survey				
Create New Survey	Select Existing Survey to Edit	Coversheet Navigation	Survey Discussion	Notify	Bla
SID00005 >	SAMPLE REQUEST TITLESAMPLE REQU	EST TITLESAMPLE REQUEST TITLE	Flagged Ready For Pee	r Review	

# **Survey Report**

Select an existing survey.

# Click Report button.

CTSIH / CTS081: AU-ł	Health Risk Assessmen	t Survey			₩ ₩		
Create New Survey HRA00003 >	Select Survey to Edit Worker Rost ASSESSMENT UNIT (AU-SEG)	er Attachments	Notify Flag Peer Review	Edit Keys Report		Delete Sur	irvey
				Jump To	(Save changes be	efore you jump)	
	•	•	•	•	•		
< Previous	Selected Item	Scope ed Item: AU: 0000002 S	HRA List Survey: HRA00003 02-MAY-2022	Conclusions ASSESSMENT UNIT (AU-SEG)	Other :	Next >	

Click blue **CTS081: AU-HRA Survey Profile Report** text to view report in new browser tab.

CTSIN / C	cts081: au-f 81 - Sui	Health Risk Assessment Surv <b>vey Reports</b>
AU	Survey	Title
0000002	HRA00003	ASSESSMENT UNIT (AU-SEG)
Report list	ing	
CTS081:	AU-HRA S	urvey Profile Report

			Health	Risk Assessment Survey R	leport	
HRA Survey Report						
Survey ID	A	UID	Title			Status
HRA00003	0	00002	ASSESSMENT UNIT (	AU-SEG)		OPEN
IH-Safety Officer:	SYSTEM, INITIAL (ITBADG	iE)				
Field Contact:	SYSTEM, INITIAL (ITBADG	iE)				
Site: Company:	COMPANY					
Scope/Description						
Description (include ta	asks and key jobs or groups	)			5	
Summary						
Summary and survey	conclusions.					
Recommend						
Recommendations go	ing forward					
Peer Review						
Ready For Peer Revie	w: No					
AU Linked Samples	<b>c</b> in				l	
21-MAR-2022	Survey ID	Sample ID	Assessment	8 HOUR TWA	AREA 1 BUILDING 1 BOOM 1	Monitored Worker
17-JUN-2022	SID00046	SID0004604	PERSONAL AIR	8 HOUR TWA	AREA 1 BUILDING 1 ROOM 2	IHSAFETYPRO
21-MAR-2022	SID00005	SID0000509	PERSONAL AIR	8 HOUR TWA	AREA 1 BUILDING 1 ROOM 1	сох
HRA Summary						
Hazard-Material		Prima	ry Hazard Source		Work Description Summary	
1-BROMOPROPAN	E	TEST				
1-BUTYL ACETATE		FUME	j			
HRA SUMMARY DETA Survey ID: HRA0000	L					
HRA Hazard:1-BRON	OPROPANE HRA ID:00000					
Description of How I	lazard Involved in Work					
Description of How I test	lazard Involved in Work				Ν	
Description of How I test Typical Amount: 3 KG	lazard Involved in Work				ß	
Description of How I test Typical Amount: 3 KG Hazard Controls Pick Pating	Hazard Involved in Work				6	
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls I	Hazard Involved in Work	eping Exposure to an Acc	eptable Level? <b>Yes</b>		₽	
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls I Severity Rating: 1 R Exposure Rating: 2	Hazard Involved in Work	eping Exposure to an Acc incern, or no known or r i the OEL to 1/2 the OEL	eptable Level? <b>Yes</b> uspected adverse health effect ) ( LOW)	s (inherent property of the hazard	)	
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls Severity Rating: 1 R Exposure Rating: 2 RAC: 4	lazard Involved in Work Effective at Reducing and Ke eversible effects of little co 0.1xOEL (1/10th	eping Exposure to an Acc vncern, or no known or s 1 the OEL to 1/2 the OEL	eptable Level? <b>Yes</b> uspected adverse health effects ) ( LOW)	s (inherent property of the hazare	l)	
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls I Severity Rating: 1 R Exposure Rating: 2 RAC: 4 Certainty Rating: 1 0 Information Gathering	Hazard Involved in Work Effective at Reducing and Ke eversible effects of little co 0.1xOEL 00.5XOEL (1/10th :ERTAIN (G) Rating: 3 (Calculated Va	eping Exposure to an Acc ncern, or no known or r 1 the OEL to 1/2 the OEL lue-(sr+er*cert=ig) highe	eptable Level? <b>Yes</b> uspected adverse health effect ) ( LOW) <sup>,</sup> value indicates greater need for	s (inherent property of the hazarr additional information to increa	d) se certainty, validate or reduce exposure)	
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls I Severity Rating: 1 R Exposure Rating: 2 RAC: 4 Certainty Rating: 1 d Information Gathering Interpretation: Other	Figentive at Reducing and Ke everysible effects of little co 0.1xOEL to 0.5xOEL (1/10H CERTAIN (IG) Rating: 3 (Calculated Ve	eping Exposure to an Acc neem, or no known or s 1 the OEL to 1/2 the OEL lue-(sr+er*cert=ig) highe	eptable Level? <b>Yes</b> uspected adverse health effect ) ( LOW) <sup>,</sup> value indicates greater need for	s (inherent property of the hazarr additional information to increa	d) se certainty, validate or reduce exposure)	
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls 1 Severity Rating: 1 R Exposure Rating: 2 RAC: 4 Certainty Rating: 1 RAC: 4 Certainty Rating: 1 Gathering Interpretation: Other Primary Hazard Source	Fazard Involved in Work Effective at Reducing and Ke eversible effects of little cc 0.1xOEL to 0.5xOEL (1/10th CERTAIN (IG) Rating: 3 (Calculated Ve e: TEST	eping Exposure to an Acco ncern, or no known or r 1 the OEL to 1/2 the OEL lue-(sr+er*cert=ig) highe	eptable Level? <b>Yes</b> uspected adverse health effect ) ( LOW) <sup>•</sup> value indicates greater need for	s (inherent property of the hazare r additional information to increa	d) se certainty, validate or reduce exposure)	
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls Exervity Rating: 1 R Severity Rating: 2 RAC: 4 Certainty Rating: 1 Information Gating: 1 Information Gating: 1 Primary Hazard Source HRA Linked Samples Surgew ID	Fazard Involved in Work  Effective at Reducing and Ke eversible effects of little co LXEEL to J.SxOEL (1/101)  EERTAIN (IG) Rating: 3 (Calculated Ve e: TEST  Sample ID	eping Exposure to an Acco neem, or ne known or s 1 the OEL to 1/2 the OEL ilue-(sr+er*cert=ig) highe	eptable Level? <b>Yes</b> uspected adverse health effect ) ( LOW) r value indicates greater need for	s (inherent property of the hazari r additional information to increa	a) se certainty, validate or reduce exposure)	Republic OEI Unit
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls I Severity Rating: 1 RAC: 4 Exposure Rating: 2 RAC: 4 Certainty Rating: 1 information Gathering inferpretation: Other Survey ID Suppoor	exercl Involved in Work  effective at Reducing and Ke eversible offects of liftle cc 0.1xOEL to 0.5xOEL (1/10H (/G) Rating: 3 (Calculated Ve e: TEST  Sample ID SID0000502	eping Exposure to an Acc meern, or no known or r 1 the OEL to 1/2 the OEL ilue-(sr+er*cert=ig) highe Sample Date 21-MAR-2022	eptable Level? <b>Yes</b> uspected adverse health effects ) ( LOW) r value indicates greater need for Assessment PERSONAL AR	s (inherent property of the hazari r additional information to increa Result Type 8 HOUR TWA	a) se certainty, validate or reduce exposure) Agent 1-BEOMOPROPANE	Result OEL Unit
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls Severity Rating: 1 R Exposure Rating: 2 RAC: 4 Certainty Rating: 1 Certainty	tazard Involved in Work  ffective at Reducing and Ke eversible effects of little cc eversible of little cc setter terms Sample ID SID0000502 SID0004604	eping Exposure to an Acc incern, or no known or r 1 the OEL to 1/2 the OEL ilue-(sr+er*cert=ig) highe Sample Date 21-MAR-2022 17-JUN-2022	eptable Level? <b>Yes</b> uspected adverse health effect: ) ( LOW) r value indicates greater need for Assessment PERSONAL AIR PERSONAL AIR	s (inherent property of the hazari r additional information to increa Result Type 8 HOUR TWA 8 HOUR TWA 8 HOUR TWA	d) d	Result         OEL         Unit           1         0.1         PPM           2         0.1         PPM
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls Severity Rating: 1 - R Exposure Rating: 2 RAC: 4 Certainty Rating: 1 Certainty R	International Involved In Work	eping Exposure to an Acc incern, or no known or r 1 the OEL to 1/2 the OEL ilue-(sr+er*cert=ig) highe Sample Date 21-MAR-2022 17-JUN-2022	eptable Level? <b>Yes</b> uspected adverse health effect ) ( LOW) r value indicates greater need for Assessment PERSONAL AIR PERSONAL AIR	s (inherent property of the hazard r additional information to increa Result Type 8 HOUR TWA 8 HOUR TWA	d) es certainty, validate or reduce exposure) Agent 1-BROMOPROPANE 1-BROMOPROPANE	Result         OEL         Unit           1         0.1         PPM           2         0.1         PPM
Description of How I test Typical Amount: 3 KG Hazard Controls I Risk Rating Are Existing Controls I Serverity Rating: 1 R Exposure Rating: 2 RAC: 4 Certainty Rating: 1 Certainty Rating: 1 Certainty Rating: 1 Certainty Rating: 1 Cher Primary Hazard Sourc HRA Linked Samples Survey ID SID00046 HRA SUMMARY DETA Survey ID: HIRA00005	Iazard Involved in Work  Effective at Reducing and Ke aversible effects of liftle co eversible effects  Sample ID SID0004604 L	eping Exposure to an Acc neem, or no known or i t the OEL to 1/2 the OEL ilue-(sr+er*cert=ig) highe Sample Date 21-MAR-2022 17-JUN-2022	eptable Level? Yes uspected adverse health effect ) ( LOW) r value indicates greater need for Assessment PERSONAL AIR PERSONAL AIR	s (inherent property of the hazard r additional information to increa Result Type 8 HOUR TWA 8 HOUR TWA	d) se certainty, validate or reduce exposure) Agent 1-BROMOPROPANE 1-BROMOPROPANE	Result         OEL         Unit           1         0.1         PPM           2         0.1         PPM
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls I Sevenity Rating: 1 RAC: 4 Exposure Rating: 2 RAC: 4 Certainty Rating: 1 Information Gathering Interpretation: Other Primary Hazard Sourc HRA Linked Samples Survey ID SID00046 HRA SUMMARY DETA Survey ID: HRA0003 HRA H022ard: BUTY	tazard Involved in Work  ffective at Reducing and Ke eversible effects of little co LotsoEt to 0.5x0Et (1/10t)  EETAIN (IG) Rating: 3 (Calculated Va e: TEST  Sample ID SID0004604  L ACETATE HRA ID:0000000  ACETATE HRA ID:00000000	eping Exposure to an Aco neem, or no known or s 1 the OEL to 1/2 the OEL ilue-(sr+er*cert=ig) highe Sample Date 21-MAR-2022 17-JUN-2022	eptable Level? <b>Yes</b> uspected adverse health effect ) ( LOW) r value indicates greater need for Assessment PERSONAL AIR PERSONAL AIR	s (inherent property of the hazari additional information to increa Result Type 8 HOUR TWA 8 HOUR TWA	a) se certainty, validate or reduce exposure) Agent 1-BROMOPROPANE 1-BROMOPROPANE	Result         OEL         Unit           1         0.1         PPM           2         0.1         PPM
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are bissing controls I Severity Rating: 1 Hard Times Test Severity Rating: 1 Information Gathering Interpretation: Other Primary Hazard Sourc HRA Linked Samples Survey ID Survey ID Survey ID RA SUMMARY DETA Survey ID RA SUMMARY DETA Survey ID RA SUMMARY DETA Survey ID RA SUMMARY DETA Survey ID Description of How I description	tazard Involved in Work terrar Involved in Work terrar Reducing and Ke versible effects of littic or DixOEL to 0.5xOEL (1/104) terrar (IG) Rating: 3 (Calculated Ve terrar Sample ID SID0004604 L ACETATE HRA ID:0000008 tazard Involved in Work	eping Exposure to an Acc incern, or no known or i t the OEL to 1/2 the OEL ilue-(sr+er*cert=ig) highe Sample Date 21-MAR-2022 17-JUN-2022	eptable Level? <b>Yes</b> uspected adverse health effect ) ( LOW) r value indicates greater need for Assessment PERSONAL AIR PERSONAL AIR	s (inherent property of the hazard r additional information to increa Result Type 8 HOUR TWA 8 HOUR TWA	d) se certainty, validate or reduce exposure) Agent 1-BROMOPROPANE 1-BROMOPROPANE	Result         OEL         Unit           1         0.1         PPM           2         0.1         PPM
Description of How I test Typical Amount: 3 KG Hazard Controls Risk Rating Are Existing Controls I Sevenity Rating: 1 RAC: 4 Exposure Rating: 2 RAC: 4 Certainty Rating: 1 Information Gathering Interpretation: Other Primary Hazard Sourc HRA Linked Samples Survey ID SiDD0046 HRA SUMMARY DETA Survey ID HRA00005 HRA HAZARDI BUTYI Description of How I description Hazard Controls	Hazard Involved in Work  Effective at Reducing and Ke  eversible effects of little co  L  EETAIN ((G) Rating: 3 (Calculated Va  ETEST  Sample ID SID0004604 L  ACETATE HRA ID:0000088 Hazard Involved in Work	eping Exposure to an Acc ncern, or no known or o t the OEL to 1/2 the OEL ilue-(sr+er*cert=ig) highe Sample Date 21-MAR-2022 17-JUN-2022	eptable Level? Yes uspected adverse health effect ) ( LOW) r value indicates greater need for Assessment PERSONAL AIR PERSONAL AIR	s (inherent property of the hazard additional information to increa Result Type 8 HOUR TWA 8 HOUR TWA	a) se certainty, validate or reduce exposure) Agent 1-BROMOPROPANE 1-BROMOPROPANE	Result         OEL         Unit           1         0.1         PPM           2         0.1         PPM
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