Appendix A Designated Substance Assessment Form

RECORD OF DESIGNATED SUBSTANCE ASSESSMENT

SUBSTANCE:	Lead Solder
DATE:	April 1, 2008

COMPANY: McMaster University, Department of Civil Engineering
DEPARTMENT OPERATIONS: Lead solder is used in room JHE 113A for general maintenance and fabrication of electronic components, and strain gauge installation.
LOCATIONS: JHE 113A
ASSESSMENT PREPARED BY: Peter Koudys, Department of Civil Engineering, Ext. 24839
TITLE: Technician
DATE PREPARED: January 16, 2008

APPLICATION – WORKSHEET 1: IS THE DESIGNATED SUBSTANCE PRESENT?

1. Do any material safety data sheets from your suppliers indicate the presence of the substance?

YES [x] NO [ ]

2. If substance is present, indicate the department where it is used, nature of the use (i.e. Direct or Indirect), and the quantity used per month or year:

Product Name	Department	How Used? Direct / Indirect	Quantity Per Month / year
Lead Solder	Civil Engineering	Direct use during soldering operation	200 grams per year

CONCLUSIONS

Read statements and check applicable box:

[ ] Substance not present anywhere in the workplace; regulation does not apply

No Assessment needed

[x] Processes / activities have been identified where substance present.

Proceed to worksheet 2

APPLICATION – WORKSHEET 2: IS WORKER EXPOSURE LIKELY?

1. In what form does the substance enter the plant?

   Product Title: Kester 44 Rosin Core Solder

   Type of Container: Spool Size of Container: 1 lb. Spool

2. Is this form altered during use or in the operation: YES [x] NO [ ]

   If YES, indicate the altered form: Solder is melted for soldering operation

3. Is there a possibility of the substance being released into the workplace environment during normal use? YES [x] NO [ ]

   If YES, indicate the stage of the operation or areas where this can occur.

   Hand contact with solder could lead to subsequent ingestion

   Inhalation of solder vapour

4. If YES to Question 3, specify the job functions and approximate number of employees who might be exposed:

Job Function	Number of Employees
Maintenance and fabrication	1
Strain Gauge installation	

5. If YES to Question 3, indicate how workers could be exposed:

   Inhalation [x] Ingestion [x] Skin Absorption [ ] Skin Contact [x]

6. If NO to Question 3, is there a likelihood of escape due to leaks, accidents, etc.?

   YES [ ] NO [ ]

7. Are workers likely to be exposed? YES [x] NO [ ]

CONCLUSIONS

Are there any activities / situations where exposure by any route is likely? YES [x] NO [ ]

If NO, no further action is necessary. Date completed: _____

If YES, an assessment is necessary – **proceed to Section III**.

Note: If protection against exposure has been left up to some engineering control measure which can fail or deteriorate for any reason, or to a work hygiene practice, an assessment is necessary – **Proceed to Section III**.

ASSESSMENT – WORKSHEET 3: PROCESS DESCRIPTION

NAME OF PROCESS: Soldering

Process Flow	Description	Likely Exposure Yes / No
1. **Turn on fume extractor(absorber) and soldering iron**	Extractor used to remove soldering fumes(see pg A-5)	No, if fume extractor is used
2. Perform soldering	Solder used for assembly, disassembly of components	"
3. Turn off fume extractor and soldering iron		No
4. Wash hands	Use sink in JHE 113A	No, if hands are washed after soldering
5.		

ASSESSMENT – WORKSHEET 4: EXISTING CONTROLS

Process Flow Stage	Control Description	Problems / Recommendations
	Engineering Controls:	
1	Weller Fume Absorber Model WSA350	Fume absorber not turned on.
	Work Practices:	
4	Wash Hands	Hands not washed . Place note on soldering station reminding user to use the absorber and to wash hands when finished soldering.

ASSESSMENT – WORKSHEET 5: EXISTING CONTROLS (cont.)

Process Flow Stage	Control Description	Problems / Recommendations
4	**Hygiene Facilities and Practices:** Wash hands after soldering. Sink in JHE 113A	N/A
2	**Training / Information:** **MSDS for solder and this assessment should be reviewed .**	N/A
	Emergency Procedures / Equipment: N/A	
	Personal Protective Equipment: Wear Safety Glasses to protect against solder splash.	

ASSESSMENT – WORKSHEET 6: JOB EXPOSURE ANALYSIS

Process Flow Stage	Job Title	Total Number of Employees	Tasks where Exposure Likely	Duration Hrs per Week	PPE Req'd to be Used
1	Technician or Students	1	Soldering Inhalation possible	2	Turn on Fume extractor & Use safety glasses
			Ingestion following skin contact.	2	Wash Hands After Use
CONCLUSIONS					
Jobs / tasks to be noted during walk-through survey: Availability of fume extractor					

APPLICATION – WORKSHEET 6: HEALTH EFFECTS

1. Any reported health effects? If so, describe.

   Molten lead produces fumes or vapors that may be toxic and/or respiratory irritants.

2. Any current Medical Program? If so, describe.

   N/A

3. Previous exposure monitoring results? If so, describe.

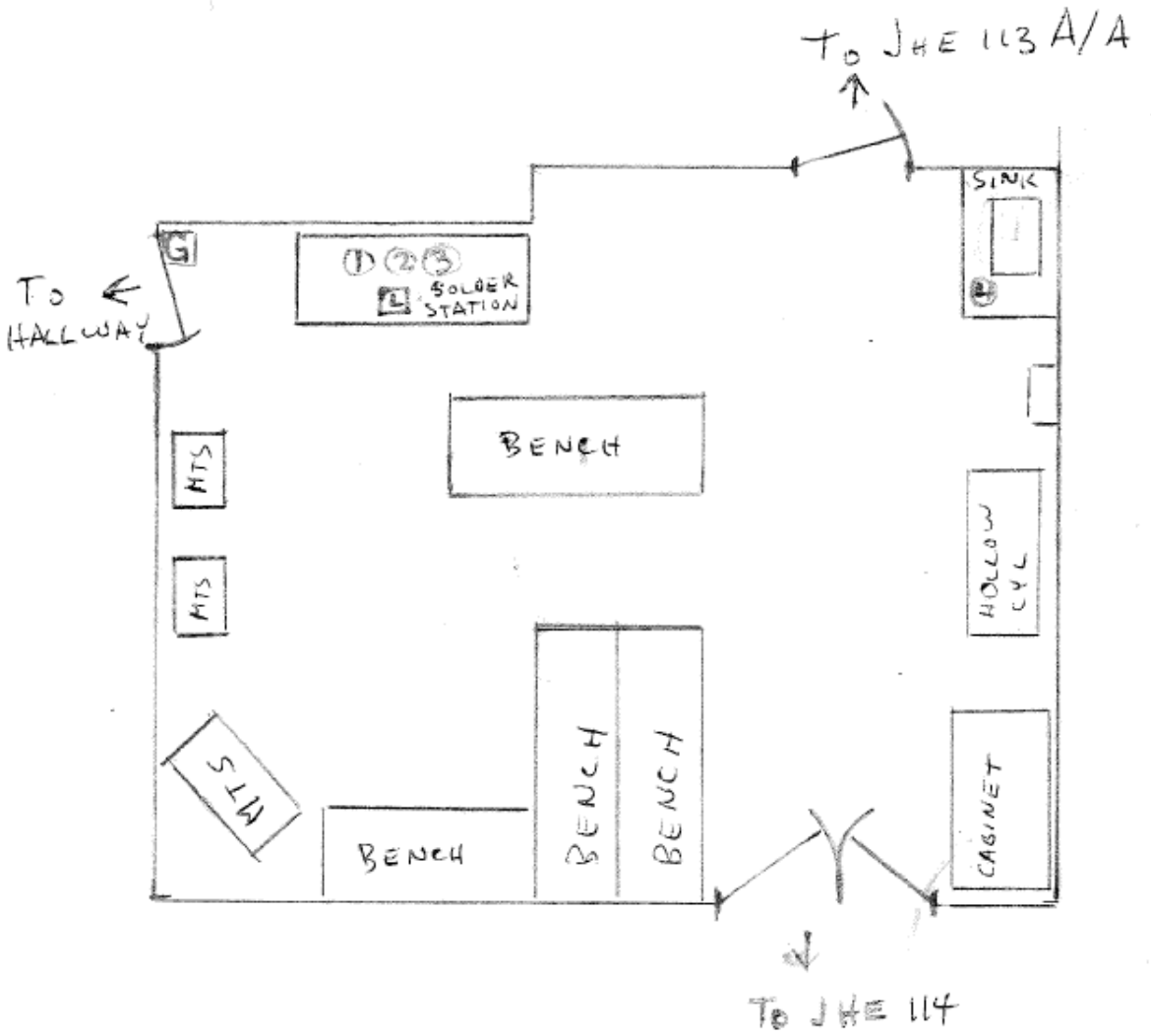
   N/A

CONCLUSIONS

Health effects known at this stage:	YES	[ ]	NO	[x]
Further information required:	YES	[ ]	NO	[x]

APPLICATION – WORKSHEET 7: FLOOR PLAN

LOCATION: **JHE 113A** **DATE:** Jan 16, 2008



DIMENSIONS: L _____ W _____ H _____

- O **WORK STATION – enter number from job title – Worksheet 5**
-) **EXPOSURE SOURCE – enter number from Process Flow – Worksheet 3**
- ☐ **VENTILATION – enter L for local exhaust, and G for general ventilation**

APPLICATION – WORKSHEET 8: WALK THROUGH

Evidence of Contamination:

None

Hygiene Facilities and Work Practices:

Sink available by west wall in JHE 113A.
Safety glasses provided.
Note placed on soldering station : Use Fume Extractor and wash hands after soldering.

Ventilation Systems:

General Room ventilation vents and Fume Extractor.

Storage Facilities:

N/A

APPLICATION – WORKSHEET 8: WALK THROUGH (cont.)

Dispensing Procedures:

Lead Solder Dispensed from spool

Housekeeping:

N/A

Personal Protective Equipment:

Safety Glasses
Fume Extractor

Emergency Facilities / Procedures:

If lead is ingested, drink large quantities of water, and call a physician

APPLICATION – WORKSHEET 9: WALK THROUGH CONCLUSIONS

1(a). Were any areas found where controls are required or where existing controls may require improvement?

YES [ ] NO [x]

1(b). If YES, indicate the areas where the controls may be required or where existing controls may require improvement.

AREA	SUGGESTED IMPROVEMENTS

2(a). Personal exposure monitoring is required. YES [ ] NO [x]

2(b). If YES, indicate where:

3. Indicate any workers for whom medical testing and / or examinations may be required.

N/A

APPLICATION – WORKSHEET 6: HEALTH EFFECTS

[x] CONCLUSION A: NO WORKER'S HEALTH MAY BE AFFECTED

[ ] CONCLUSION B: A WORKER'S HEALTH MAY BE AFFECTED.

OVERALL CONCLUSION

A control program is necessary. YES [ ] NO [x]

Improvements needed in existing program:

DATE Jan 16, 2008 SIGNED