Appendix A Designated Substance Assessment Form

RECORD OF DESIGNATED SUBSTANCE ASSESSMENT

SUBSTANCE: lead solder Sn63Pb37
DATE: March 18, 2008

COMPANY: Mechanical Engineering, McMaster University
DEPARTMENT OPERATIONS: Soldering strain gauges which require low temperature (360 degrees C) solder.
LOCATIONS: JHE 208a
ASSESSMENT PREPARED BY: Joe Verhaeghe TITLE: Electronic Technologist DATE PREPARED: March 18, 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**
Kestler P/N 245 Sn63Pb37, 0.015” diameter	mech eng	Direct	6” per month (2gm)

CONCLUSIONS

Read statements and check applicable box:

[ ] Substance not present anywhere in 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:
   Type of Container: wire spool Size of Container: 454g

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

   If YES, indicate altered form: wire melted to new shape

3. Is there a possibility of the substance being releases into the workplace environment during normal use? YES x NO ☐
   If YES, indicate the stage of the operation or areas where this can occur.
   During soldering process. Does not evaporate at temperature being used.

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

Job Function	**Number of Employees**
Technicians	2

5. If YES, to Question 3, Indicate how workers could be exposed:
   Inhalation ☐ Ingestion x Skin Absorption ☐
   Skin Contact ☐

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 stain gauges

Process Flow	Description	Likely Exposure Yes / No
1. Preparation	Install strain gauges to speciman	
2. Prepare wires	Remove insulation, cut to length	No
3. Solder	Solder wire to gauges	Yes
4. Return solder to storage	Remove solder from workbench and wash hands	Yes
5.		

ASSESSMENT – WORKSHEET 4: EXISTING CONTROLS

Process Flow Stage	Control Description	Problems / Recommendations
	Engineering Controls: none	
Soldering	**Work Practices**	Solder may be ingested by placing hand containing solder in mouth./ Wash hand after use

ASSESSMENT – WORKSHEET 4: - EXISTING CONTROLS (cont'd)

Process Flow Stage	Control Description	Problems / Recommendations
Soldering	**Hygiene Facilities and Practices:**	Wash hands after use
	Training / Information:	Instruct employee to wash hands after handling solder
	Emergency Procedures / Equipment none	
	Personal Protective Equipment none	

ASSESSMENT – WORKSHEET 5: 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. soldering	1. technician	2	Soldering Strain gauges	0.5	none

CONCLUSIONS

Jobs/ tasks to be noted during walk through survey: Ensure solder is stored in designed location.

ASSESSMENT – WORKSHEET 6: HEALTH EFFECTS

1. Any reported health effects? If so, describe. No.

2. Any current Medical Program? If so, describe. No

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

CONCLUSIONS

Health effects known at this stage: YES Y NO ☐

Further information required: YES ☐ NO X

ASSESSMENT – WORKSHEET 7: FLOOR PLAN

LOCATION: jhe208a DATE: May 12, 2008

SW						Work	Bench	--------	
						Work	Bench	--------	
							chair		
									Storage drawer
				door					

DIMENSIONS: one square approx 1 square foot.

◯ WORK STATION – enter number form job title – Worksheet 5

△ EXPOSURE SOURCE – enter number from Process Flow – Worksheet 3

☐ VENTILATION – enter L for local exhaust & G for general ventilation

ASSESSMENT – WORKSHEET 8: WALK THROUGH

Evidence of Contamination:

none

Hygiene Facilities and Work Practices:

Workbench cleaned before and after soldering.

Ventilation Systems:
none

Storage Facilities:

Drawer labelled.

ASSESSMENT – WORKSHEET 8: WALK THROUGH (cont'd)

Dispensing Procedures:

Housekeeping:

Personal Protective Equipment:

Emergency Facilities / Procedures:

ASSESSMENT – WORKSHEET 9: WALK THROUGH CONCLUSIONS

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

YES ☐ NO ☐

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 ☐

2(b). If YES, Indicate where:

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

CONCLUSION: WORKSHEET 10: IS A CONTROL PROGRAM NECESSARY?

☐ 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 ☐

Improvements needed in existing program:

DATE:_____ **SIGNED**_____