

# Lead Control Standard

Sarnia Refinery

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## Summary of Changes

This Summary shows:

- All changes from last approved and published document
- The location within the document where the changes have been made

REVISION LOG				
Date (MM/DD/YYYY)	Revision	Section	Comment	Editor (Name)
11/06/2011	Original		New Document	
06/27/2012	1	All	Updated format, but content was NOT altered.	
07/24/2013	-	Header	Document Owner & Contact Updated. NO content change.	L. Lebert
12/04/2014	2	Risk Assessment	Wording changed to include lead-containing materials other than soil and paints/primers.	
		Risk Control	Removed requirement to reference MOL Lead Guideline and replaced it with direction to new Appendices containing relevant information regarding work activity classification and control measures.	
			Added direction to consult with OH for classification of work activities not adequately represented in Appendix A.	
		Definitions	Added definition of “Lead-containing Material”.	
Appendix A	New – lead work activity classification information for common site activities based on task description and duration of activity.			

		Appendix B	New – summary of lead control measures as prescribed by the MOL Lead Guideline.	
09/03/2019	3	All	Transitioned document to new Standard format.	M.Chipman
		1.2 Scope	Updated reference for cut-off concentration to align with WHMIS 2015.	
		A1.2 Guidelines	Updated link to MOL Guideline for Lead on Construction Projects.	
		3.1.5 Type 1	Added laser ablation.	

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# 1 About this Manual

## 1.1 Purpose

1.1.1 Defined This Standard identifies the controls required to reduce the risk of exposure to lead.

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The Ministry of Labour Guideline for Lead on Construction Projects has been prepared to assist all persons who have duties under the Ontario Occupational Health & Safety Act and its regulations to protect workers from exposure to lead. Although the guideline is not enforced by the MOL, it may be refer to in determining whether every precaution reasonable in the circumstance has been taken for the protection of a worker.

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The guidance provided in this standard is based on this MOL guideline.

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## 1.2 Scope

1.2.1 Defined The scope of this Standard applies to all work activity that involves the disturbance of:

- Any material containing  $\geq 0.1\%$  lead by weight
- Lead-containing coatings
- Lead-contaminated soil

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A cut-off concentration of 0.1% has been chosen in order to align with the SDS disclosure requirements for carcinogens and reproductive toxins under WHMIS 2015 legislation.

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## 1.3 Exceptions

1.3.1 Defined There are no exceptions to this Standard without the written permission of the VP, Sarnia Refinery. Approval will be considered only after completion of a formal risk assessment.

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## 1.4 Target Audience

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1.4.1	Defined	The target audience for this document are all Suncor Personnel. References in this document to “Suncor Personnel” include directors, officers, employees, contract workers, consultants and agents of Suncor.
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## 1.5 Conformance Expectations

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1.5.1	Defined	The conformance expectations are as follows: <ol style="list-style-type: none"><li>1. Ontario Regulation O. Reg 490/09 – Designated Substances</li><li>2. Respiratory Protection Standard</li></ol>
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## 2 Controlling the Lead Hazard

### 2.1 Introduction

2.1.1 Defined 

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Lead is a designed substance under the Ontario Regulation 490/09. The regulation applies to every employer and worker at a workplace where lead is present, produced, processed, used, handled or stored and at which a worker is likely to be exposed to lead.

Protective measures are identified in this Standard to ensure every reasonable precaution has been taken to reduce exposure to lead.

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Potential Lead Hazards are controlled by:

- Performing a risk assessment
  - Identifying the proper protective equipment
  - Monitoring lead exposure
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### 2.2 Risk Assessment

2.2.1 Defined 

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The presence of lead shall be considered during the planning of all work activity that involves the disturbance of potential lead-containing materials.

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The Occupational Hygienist is accountable to provide support to ensure appropriate control of worker exposure to lead and conformance to this Standard.

2.2.2 Tetraethyl Lead (TEL) Building 

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The soil surrounding the old tetraethyl lead (TEL) building (12-BD-001) has not been remediated since the removal of TEL-related equipment and, therefore, must be assumed to contain historical lead contamination unless proven otherwise.

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The Occupational Hygienist shall be contacted during the planning of all work involving excavation of the soil surrounding the old TEL building to ensure all appropriate control measures are implemented.

2.2.3 Paints and Primers 

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Paints and primers confirmed that have been applied to interior surfaces of buildings located in non-process areas  $\geq$  January 1, 1985 may be considered lead-free.

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2.2.4 Other Suspect Materials 

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All other suspect materials must be assumed to be lead-containing unless verified otherwise.

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2.2.5	Deeming a Suspect Material Lead-free	<p>Acceptable methods for deeming a suspect material lead-free may include:</p> <ul style="list-style-type: none"> <li>• Bulk sampling and analysis           <ul style="list-style-type: none"> <li>○ Samples representative of all areas and layers to be disturbed shall be collected and analyzed by an American Industrial Hygiene Association (AIHA) accredited laboratory.</li> <li>○ A suspect material may be deemed lead-free if it contains less than 0.1% lead by weight.</li> <li>○ Records of all samples collected shall be maintained by the Occupational Hygienist.</li> </ul> </li> <li>• Safety Data Sheet (SDS) review           <ul style="list-style-type: none"> <li>○ The material may be deemed lead-free if the SDS is available for review and:               <ul style="list-style-type: none"> <li>▪ It does not indicate the presence of lead or any compounds of lead; or</li> <li>▪ Indicates the presence of lead and/or compounds of lead in a total concentration of less than 0.1% by weight.</li> </ul> </li> </ul> </li> </ul>
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2.2.6	References	<p>The following references are used to support this section:</p> <ul style="list-style-type: none"> <li>• SDS Database</li> </ul>
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## 2.3 Personal Protective Equipment

2.3.1	Defined	<p>Personal protective clothing and equipment should be provided where engineering and administrative controls are not available, practicable or effective at reducing the concentration of lead to below the OEL.</p>
2.3.2	Protective Clothing	<p>Protective clothing shall be worn in accordance with the table in Section 3.2.4</p>
2.3.3	Respirators	<p>Respiratory protection shall be worn in accordance with the table in Section 3.2.4.</p>
2.3.4	References	<p>The following references are used to support this section:</p> <ul style="list-style-type: none"> <li>• Respiratory Protection Standard</li> </ul>



## 2.4 Medical Surveillance

2.4.1	Defined	<hr/> <p>The objective of a medical surveillance program is to protect the health of workers by:</p> <ul style="list-style-type: none"><li>• ensuring their fitness for exposure to lead</li><li>• evaluating their absorption of lead</li><li>• enabling remedial action to be taken when necessary</li><li>• Providing health education</li></ul> <hr/>
2.4.2	Criteria	<p>Occupational Health Nurse is accountable to provide medical surveillance testing in accordance with this Standard and maintain associated records.</p> <hr/>
2.4.2	Criteria	<p>Blood tests can be drawn upon request if there is concern there is an exposure.</p> <hr/>
2.4.3	References	<p>The following references are used to support this section:</p> <ul style="list-style-type: none"><li>• None</li></ul> <hr/>

### 3 Classification of Work

#### 3.1 Introduction

3.1.1 Defined Classification of the work determines the appropriate respirators, measures and procedures that must be followed to protect the worker from lead exposure.

All work involving the disturbance of other lead-containing materials shall be classified as either:

- Type 1 Operation
- Type 2a Operation
- Type 2b Operation
- Type 3a Operation
- Type 3b Operation

3.1.2 References The following references are used to support this section:

- MOL Guideline for Lead on Construction Projects

#### 3.2 Work Activity Exposure Limits and Control Measures

3.2.1 Defined The classifications provided in the table below were determined by calculating maximum daily time-weighted average worker exposures based on both duration of the work activity and the following presumed airborne concentrations as provided in the MOL Guideline for Lead on Construction Projects (2011):

- Type 1: <0.05mg/m<sup>3</sup>
- Type 2a: 0.05-0.50mg/m<sup>3</sup>
- Type 2b: 0.50-1.25mg/m<sup>3</sup>
- Type 3a: 1.25-2.50mg/m<sup>3</sup>
- Type 3b: >2.50mg/m<sup>3</sup>

3.2.2 Work Activities Not Represented Classification of work activities not adequately represented below shall be conducted in consultation with the Occupational Hygienist.

3.2.3 Classification of Work All work involving the disturbance of lead-containing material should be classified as a Type 1, 2a, 2b, 3a or 3b operation in accordance with the following table:

Description of Work Activity	Daily Duration of Activity				
	<9min	9-48min	49-96min	97-239min	≥240min
Removal of a lead-containing coating with a chemical gel or paste	Type 1				
Removal of a lead-containing coating or material using a power tool that has a dust collection system equipped with a HEPA filter					
Removal of a lead-containing coating or material using non-powered hand tools, other than manual scraping or sanding					
Lead soldering					
Laser ablation					
Removal of a lead-containing coating or material by scraping or sanding using non-powered hand tools	Type 1		Type 2a		
Manual demolition of lead-painted building components by striking with a sledgehammer or similar tool					
Welding or high temperature cutting of lead-containing coatings or materials	Type 1	Type 2a		Type 2b	Type 3a
Burning of a surface containing lead					
Removal of a lead-containing coating or material using power tools without a dust collection system equipped with a HEPA filter					
Abrasive blasting of a lead-containing coating or material	Type 3b				



3.2.4 Control Measures

The control measures for each class of lead operation shall be prescribed using the following table:

	Type 1	Type 2a	Type 2b	Type 3a	Type 3b
<b>General Controls</b>	<p>Workers required to use washing facilities when leaving work area;                      Drop sheets used below operations which may produce lead-containing dust, chips or debris;                      Dust and waste identified and HEPA vacuumed or wet-wiped before leaving work area; and                      Cleaning only by wet wiping or HEPA vacuuming (no compressed air or dry sweeping)</p>				
<b>Respirator</b>	Not required	Half-face APR with P100 filters	Full-face APR with P100 filters		Abrasive blasting helmet-style SAR
<b>Disposable Coveralls</b>	Not required	Required			
<b>Signage</b>	Not required	<p>Required. Must display the following at each entrance to the work area:  <i>There is a dust or fume hazard;</i>  <i>Access to the work area is restricted to authorized persons; and</i>  <i>Respirators must be worn in the work area</i></p>			

<b>Barrier/ Enclosure</b>	Not required	Barrier around immediate work area required	Enclosure required if significant dust is generated. Otherwise, enclosure preferred but appropriately distanced barrier acceptable	Required
<b>Wet Methods and/or Local Ventilation</b>	Not required		Recommended where practicable	
<b>Decontamination Facility (with shower)</b>	Not required		When removing coatings using power tools without HEPA filter	Required

## 4 Training

### 4.1 Training Requirements

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4.1.1	Defined	Lead Training is provided as part of the Workplace Right to Know information in which individuals have the right to know the chemicals to which they may be exposed to in their daily living.
4.1.2	Training	Training on the hazards of lead is mandatory for all personnel at the refinery.
4.1.3	References	The following references are used to support this section: <ul style="list-style-type: none"><li>• Suncor WHMIS 2015 – GHS – WBT (LMS Course 348002)</li><li>• Hazardous Materials Awareness (Active Learner Code: SARHAZMATERIAL)</li></ul>

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## 5 Auditing

### 5.1 Introduction

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5.1.1 Defined Auditing is required to ensure compliance with the

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### 5.2 Roles and Responsibilities

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5.2.1 Title of Position The Title of Position is responsible for

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5.2.2 Title of Position The Title of Position is responsible for

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### 5.3 Audit Process

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5.3.1 Defined The auditing process entails  
Audits are conducted on a X basis.

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5.3.2 References The following references are used to support this section:

- Any forms?

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## **A1 Appendices**

### **A1.1 Standards**

[Ontario Regulation O. Reg 490/09 – Designated Substances Respiratory Protection Standard](#)

### **A1.2 Guidelines**

[MOL Guideline for Lead on Construction Projects](#)

### **A1.3 Forms**

Occupational Hygiene Sampling Summary Form

### **A1.4 Workflows**

NA

### **A1.5 Procedures**

NA

### **A1.6 Training**

Suncor WHMIS 2015 – GHS – WBT (LMS Course 348002)

Hazardous Materials Awareness (Active Learner Code: SARHAZMATERIAL)