

Welding Fumes

Task-Based Data Collection Form

CPWR-The Center for Construction Research and Training has developed a free, interactive online database of respirable crystalline silica, welding fumes, lead, and noise exposure data for the construction sector. The welding fumes branch of the database can be searched by different combinations of hot work type, consumables, controls, and other unique factors and calculates workers' estimated exposure levels. See: <http://ecd.cpwrconstructionsolutions.org>

The data collection form on the next page was developed to record required information for the welding fumes branch of the database. No individual and company names, contact information, monitoring site location, or other personally identifiable information will be shared outside of the CPWR research team. We greatly appreciate your participation.

Sampling Instructions:

- Follow *NIOSH Method 0500, 7300, 7301, or 7303*. Other sampling and/or analysis methods may be considered with submitted justification.
- Use personal air sampling pump calibrated with less than 10% error.
- Collect personal breathing zone samples.
- Analyze samples in an accredited lab.

Sample duration can vary depending on task duration. Each sample should be representative of welding fumes exposure from one hot work process using one consumable and one control method (e.g. shielded metal arc welding with a 6010 rod and local exhaust ventilation). However, if multiple types of consumables are regularly used as standard practice for a single hot work process, please include them all with a short note (i.e. "6010 used on first pass, 7018 used on second and third passes").

If you are analyzing a sample for multiple analytes (e.g. total particulate, manganese, hexavalent chromium, etc.), please include concentrations for all analytes.

For more information on sampling and analysis see: <https://www.cdc.gov/niosh/npg/npgd0666.html> and <https://www.osha.gov/dts/otpca/nrtl/nrtllist.html>

Please return the completed data collection forms, a copy of the lab analysis report, and any additional notes you feel would be helpful to sbrooks@cpwr.com. If you have any questions or concerns, please contact Sara Brooks at (301) 495-8532. Thank you!

*CONTACT INFORMATION
Name:
Company:
Email:
Phone:



THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING

Welding Fumes

Task-Based Data Collection Form

*DATE

Note: All fields with an () are required.

PROJECT INFORMATION		
Site Name:	State:	Country:
*Type of Worksite: <input type="checkbox"/> Active worksite <input type="checkbox"/> Simulated worksite <input type="checkbox"/> Laboratory		
Project Type: <input type="checkbox"/> Renovation <input type="checkbox"/> Demolition <input type="checkbox"/> New Construction		
Comments:		

SAMPLING STRATEGY	
*Pump Inlet Location:	<input type="checkbox"/> Inside Welding Helmet <input type="checkbox"/> Outside Welding Helmet
*Welding Helmet Type:	<input type="checkbox"/> Standard <input type="checkbox"/> Welding Helmet with Integrated Respirator
*Sampling objective:	<input type="checkbox"/> Worst-case <input type="checkbox"/> Representative
Comments:	

HOT WORK PROCESS
*Type of Hot Work (i.e. SMA, TIG, MIG, FCA, brazing, soldering, plasma cutting, oxyacetylene cutting):
*Consumable (if applicable):
*Base Metal (i.e. carbon steel, stainless steel, galvanized steel, copper):
*Environment (i.e. indoor, outdoor, confined space, welding booth):
Description of Task:

CONTROLS	
*Type:	<input type="checkbox"/> Local Exhaust Ventilation <input type="checkbox"/> General Dilution Ventilation <input type="checkbox"/> Glove Box <input type="checkbox"/> None <input type="checkbox"/> Other: _____
*Good Working Order:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:	

SAMPLING DATA			
*Sample ID:	Sample Type: Personal Breathing Zone	*Flow Rate (L/min):	Pre- and Post-Calibration: performed with less than 10% error? <input type="checkbox"/> Yes <input type="checkbox"/> No
Time		*Total Air Volume (L):	
On:	Off:		
Comments:			

LAB ANALYSIS	
Laboratory:	*Analysis Method (select all that apply): <input type="checkbox"/> NIOSH 0500 <input type="checkbox"/> NIOSH 7300 <input type="checkbox"/> NIOSH 7301 <input type="checkbox"/> NIOSH 7303 <input type="checkbox"/> Other (specify): _____
Date of Analysis:	
Total Particulate (mg/m ³):	Manganese (µg/m ³):
Hexavalent Chromium (µg/m ³):	Lead (µg/m ³):
All Other Analytes (please specify):	