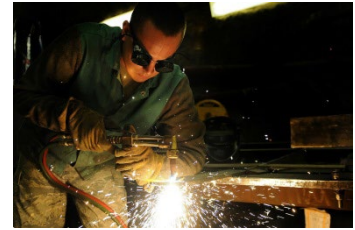


# Sampling Solutions for Welding Operations

## Introduction

Welding operations may expose workers to toxic levels of gases such as carbon monoxide, nitrogen dioxide, and ozone. Airborne particulates resulting from welding are also a concern because they can produce a variety of metal fumes such as manganese and hexavalent chromium that are hazardous to workers' health. The International Agency for Research on Cancer (IARC) has classified welding fumes as Group 1 carcinogens because there is sufficient evidence that they cause cancer in humans. SKC offers a variety of solutions for direct-readout of target compounds, as well as active and passive sampling of target compounds.



SKC active samplers require an air sample pump to collect hazardous gases and vapours in air; passive samplers collect hazardous vapours by diffusion without the use of an air sample pump.

The target compounds in welding operations include:

- Carbon monoxide, nitrogen dioxide and ozone
- Metal fumes including hexavalent chromium and manganese

## SKC Sampling Solutions

For over 50 years, SKC has led the research, design, and manufacture of quality sampling equipment and media to aid health and safety professionals in the evaluation of occupational and environmental hazards.

SKC sampling solutions for welding operations include air sample pumps, active and passive samplers, sample bags, filter cassettes and sorbent tubes, following agency methods and established protocols.

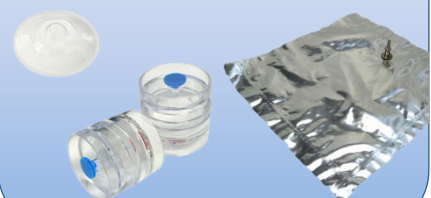
### Air Sample Pumps



### Passive Samplers



### Sampling Media



## Sample Collection

### Active Air Sampling Solutions

Target Compound	Select Methods*	SKC Sample Collection Media and Part No.	SKC Sample Pump and Part No.	Notes
Carbon monoxide	<a href="#">OSHA ID 210</a>	FlexFoil sample bag <a href="#">252</a> , <a href="#">253</a> , <a href="#">262</a> , or <a href="#">263</a> Series	<a href="#">Pocket Pump TOUCH</a> 220-1000TC	Requires PTFE tubing
Elements by cellulosic internal capsule sampler	<a href="#">NIOSH 7306</a>	Solu-CAP™ <a href="#">225-8517</a>	<a href="#">AirChek TOUCH</a> 220-5000TC	
Hexavalent chromium	<a href="#">NIOSH 7600</a> <a href="#">OSHA ID 215</a>	Preloaded PVC filter cassette <a href="#">225-802</a>	<a href="#">AirChek TOUCH</a> 220-5000TC	
Metal fumes (metals and metalloid particulates)	<a href="#">OSHA ID 121</a> <a href="#">OSHA ID 125G</a>	Preloaded MCE filter cassette <a href="#">225-3-01</a>	<a href="#">AirChek TOUCH</a> 220-5000TC	Analysis options: OSHA ID 121 - atomic absorption OSHA ID 125G - ICP
Metals (Elements)	<a href="#">NIOSH 7300</a>	Preloaded MCE filter cassette <a href="#">225-3-01</a> or preloaded PVC filter cassette <a href="#">225-802</a>	<a href="#">AirChek TOUCH</a> 220-5000TC	
Nitrogen dioxide	<a href="#">NIOSH 6014</a> <a href="#">OSHA ID 182</a>	Sorbent tube <a href="#">226-40-02</a>	<a href="#">Pocket Pump TOUCH</a> 220-1000TC	
Ozone	<a href="#">OSHA ID 214</a>	Preloaded coated glass filter cassette <a href="#">225-9014</a>	<a href="#">AirChek TOUCH</a> 220-5000TC	

\* Other methods may apply. SKC recommends those listed.

### Passive Air Sampling Solutions

Target Compound	Select Methods*/ SKC Validation	SKC Sample Collection Media and Part No.	Notes
Nitrogen dioxide	Research Report <a href="#">1789</a>	UME <sup>x</sup> 200 <a href="#">500-200</a>	Solvent extraction and ion chromatography with conductivity detection

Distributed in Australia by Active Environmental Solutions  
 VIC +61 3 9464 2300, NSW +61 2 9716 5966  
 WA +61 8 9249 5663, QLD +61 7 3267 1433  
[sales@aesolutions.com.au](mailto:sales@aesolutions.com.au) | [www.aesolutions.com.au](http://www.aesolutions.com.au)

