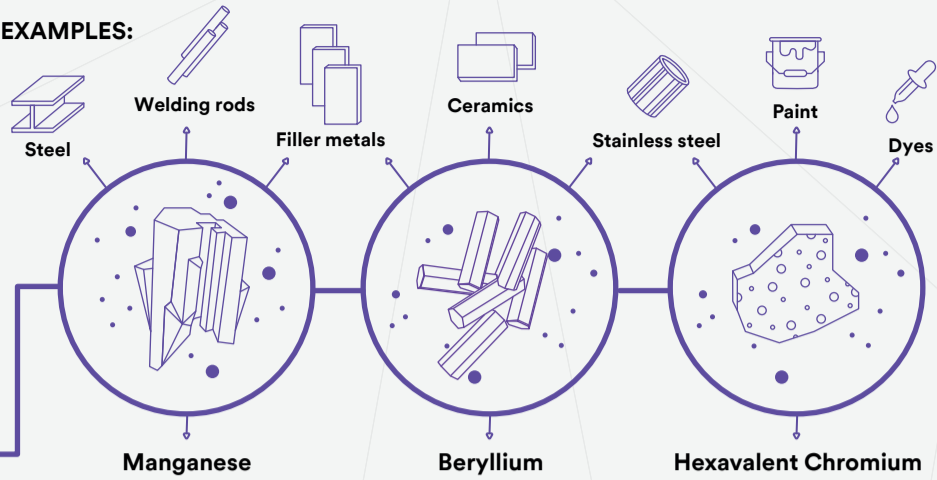


WHAT ARE MANGANESE, HEXAVALENT CHROMIUM & BERYLLIUM?

EXAMPLES:



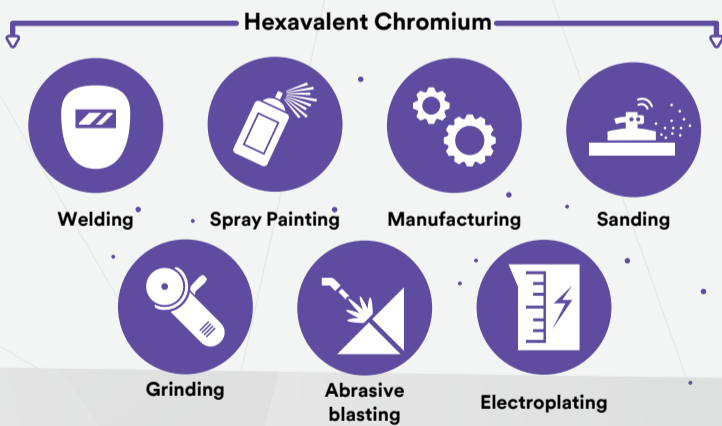
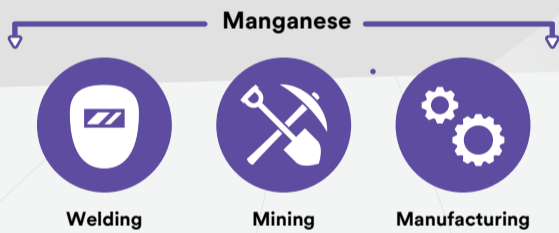
Manganese is a metal that is commonly added to steel to promote hardness and durability. In the workplace, it is commonly found in **welding rods** and **filler metals**.

Chromium is an element naturally found in the earth's crust. Chromium is found in a number of different forms, but it is the hexavalent form that is an emerging health focus. It can be present during operations like **stainless steel welding** as well as found in a **myriad of paints, pigments, dyes, plastics and more**.¹

Beryllium is a lightweight but extremely strong metal used in a variety of applications, particularly in welding. Industries where beryllium exposure commonly occurs include **aerospace, aviation, defense, shipbuilding, telecommunications, energy, nuclear and construction**.

Key Industries and Applications to Watch

In the dust, fumes, or mists present when:



Who could be exposed?

Over **550,000** workers a year² from **Manganese and HexChrome**

Around **62,000** workers could be exposed to **beryllium**

WHY COULD MANGANESE, HEXAVALENT CHROMIUM & BERYLLIUM AFFECT MY TEAM?

According to OSHA, workplace exposures to manganese can result in irritation to the nose, throat and lungs. Exposures have also been associated with Manganism, a disease that has been associated with weakness, lethargy, tremors and even paralysis. Manganese is potentially an ototoxic agent, which means that it can be harmful to hearing as well.

Hexavalent Chromium exposures have been associated with skin irritation, ulcers, allergic reactions and lung cancer.

According to OSHA, workers who have been exposed to beryllium are at an increased risk of developing chronic beryllium disease (CBD), berylliosis and lung cancer.



See links below for more information.

What Types of Respiratory Protection Can Help?



From tight-fitting disposable or reusable respirators to powered or supplied air respirators, 3M has a range of protective gear that can help you keep your team protected. Take a look at our entire line of **respiratory protection products** to see which might suit your environment best.

¹Hexavalent Chromium. United States Department of Labor, Occupational Safety and Health Administration, Safety and Health Topics (n.d.). Retrieved from <https://www.osha.gov/SLTC/hexavalentchromium/index.html> on Sept. 21, 2016

²The National Occupational Classification, Government of Canada (2016), Retrieved from <http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/SearchIndex.aspx> on Nov. 4, 2016

<https://www.osha.gov/SLTC/beryllium/index.html>
https://www.osha.gov/Publications/OSHA_FS-3647_Welding.pdf
https://www.osha.gov/OshDoc/data_General_Facts/hexavalent_chromium.html