What’s the big deal about ‘swarf’?

Wikipedia defines swarf as material “also known as chips or by other process-specific names (such as turnings, filings, or shavings), are pieces of metal, wood, or plastic that are the debris or waste resulting from machining, woodworking, or similar subtractive (material-removing) manufacturing processes. Swarf or chips can be small particles (such as the gritty swarf from grinding metal or the sawdust from sawing or sanding wood); long, stringy tendrils (such as the springy chips from turning tough metals, or long shavings from whittling); slag-like waste (such as is produced within pipe during pipefitting work); or stone fragments and dust (as in masonry).” Swarf is simply a byproduct created during the processing of material.

Materials that may not be hazardous in an unprocessed state may create swarf that is hazardous. Concrete sawing, drilling or sanding creates dust that contains silica; grinding grain may create combustible dust; grinding on chrome may release swarf that contains hexavalent chromium. Physical hazards may range from flying metal shavings and stone chips to fire hazards created by sawdust.

OSHA requires that swarf be controlled or contained and must always be directed away from people. This can be accomplished by mechanical ventilation (sawdust removal systems), metalworking fluid (drilling or deburring metals) or machine guarding (barrier guards). Additional housekeeping is required to control the hazards associated with swarf.