

HEALTH HAZARD DATA

Routes of Exposure: Grinding cemented carbide product will produce dust of potentially hazardous ingredients which can be inhaled, swallowed or come in contact with the skin or eyes. Electric arc welding **ay** create one or more of the following health hazards: **ELECTRIC SHOCK** can kill; **FUMES AND GASES** can be dangerous to your health; **ARC RAYS** can injure eyes and bum skin.

Effects of Overexposure: Grinding

Inhalation: Dust from grinding can cause irritation of the nose and throat. It also has the potential for causing transient or permanent respiratory disease, including occupational asthma and interstitial fibrosis, in a small percentage of exposed individuals. It is reported that cobalt dust is the most probable cause of such respiratory diseases. Symptoms include productive cough, wheezing, shortness of breath, chest tightness and weight loss. Interstitial fibrosis (lung scarring) can end to permanent disability or death. Certain pulmonary conditions may be aggravated by exposure. Nickel is suspected of causing nasal and lung cancer. Symptoms include pain, bleeding, nasal obstruction, vision impairment, weight loss, and voice resonance change.

Skin Contact: Can cause irritation or an allergic skin rash due to cobalt sensitization. Certain skin conditions, such as dry skin, may be aggravated by exposure.

Eye Contact: Can cause irritation.

Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential for causing blood, heart and other organ problems.

Effects of Overexposure: Welding, Brazing, or Soldering

Electric arc welding, brazing or soldering may create one or more of the following health hazards:

Fumes and Gasses: Short-term exposure to welding fumes may result in discomfort such as dizziness, nausea, dryness or irritation of nose, throat, or eyes. Metal fume fever is a common reaction. It is characterized by chills, fever, sweating and leucocytosis coming on several hours after exposure. Recovery is usually complete in 24-48 hours and there are no significant after effects.

Special Concerns: **Cobalt and Nickel - see paragraph on grinding. Copper has been reported to be respiratory irritant and to cause metal fume fever and muscle ache. Manganese fume has been reported to be a cause of metal fume fever, dry throat, chest tightness, low back pain, vomiting, fatigue and headache. A reported chronic effect of manganese is known as "Manganism". Sensitivity varies. It affects the central nervous system causing muscular weakness and tremors: symptoms similar to Parkinson's disease. Exposed employees should be quarterly medical examinations for Manganism.**

Arc Rays: Can injure eyes and burn skin.

Electric Shock: Can kill. See sections on Reactivity Data and Special Protection Information and Precautions.

Heat Rays: Infrared radiation from flame or hot metal can injure eyes.

Threshold Limit Value: The ACGIH recommended general limit for Welding Fume NOT (Not Otherwise Classified) is 5mg/cu.m. ACGIH-1980 preface states "The TLV-TWA should use guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations." See Hazardous materials section¹ for specific fume constituents that may modify this TLV for some of the products sold.

Emergency and First Aid Procedures: Applicable for Dusts or Mists

Inhalation: Skin Contact: Eye Contact:

Ingestion: If substantial quantities are swallowed, dilute with a large amount of water, induce vomiting and seek medical attention.

Emergency and First Aid Procedures: Applicable for Welding and Brazing

Call for medical aid. Employ first aid techniques recommended by the American Red Cross. **FIRE AND**

EXPLOSION HAZARD DATA

Test Method Used: NA
LEL: NA

Hard Cemented Carbide Product is not a fire hazard. Dusts generated in grinding operations may ignite if allowed to accumulate and subjected to an ignition source. Welding consumable and related products are generally nonflammable. Nonflammable welding arc and sparks can ignite combustibles. Refer to American National Standard Z49.1. Safety in Welding and cutting published by the American Welding Society, P.O. B6x 351040, Miami, Florida 33135, for fire prevention and protection information during the use of welding and allied procedures

If symptoms of pulmonary involvement develop (coughing, wheezing, shortness of breath, etc.), remove from exposure and seek medical attention I

If irritation or rash occurs, thoroughly wash affected area with soap and water and isolate from exposure. If irritations or rash persists, seek medical attention.

If irritation occurs, flush with copious amounts of water. If irritation persists, medical attention.

Flash Pt: NA **Flammable Limits:** NA

Extinguishing Media: For dust and powder fires, smother with dry sand or dry dolomite, use an type fire extinguisher, flood with water.

Special Fire Fighting Procedures: For a dust or powder fire confined to a small area, use a respirator approved for toxic dusts and fumes. For a large fire, fire fighters should use self-contained breathing apparatus.

Unusual Fire and Explosion Hazards. Dusts may present a fire or explosion hazard under rare favoring conditions of particle size, dispersion and strong ignition source. However, this is not expected to be a problem under normal handling conditions.

Hazardous Decomposition Products in Grinding and Storage: None

Hazardous decomposition Products in Welding and Brazing: Welding and brazing fumes and gasses cannot be classified simply. The composition and quantity of both are dependent upon the metal being b or welded, the process, procedures and filler metals used. Other conditions which also influence the composition and quantity of the fumes and gasses to which workers may be exposed include: coatings on the metal being, welded (such as paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the operator's head with respect to the fume plume, as well the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and decreasing activities).

When the filler metal is consumed, the fume and gas decomposition products generated are different in part and form from the ingredients listed in the Hazardous Materials Section. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in the Hazard Materials Section, plus those from the base metal and coating, etc., as noted above.

Hazardous Polymerization: Will not occur

SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: N/A

Stability: Incompatibility: Materials to Avoid:

REACTIVITY DATA

Stable

Contact of dust with strong oxidizers may cause fire or explosions. Strong Acids

Waste Disposal Method:

Prevent waste from contaminating surrounding environment. Discard any product residue, disposable container or liner in an environmentally acceptable manner' full compliance with federal, state and local restrictions.

SPECIAL PROTECTION INFORMATION

Read and understand the manufacturer's instructions and the warning label on the product. See American National Standard Z49.1, Safety in Welding and Cutting published by the American Welding Society, P.O. Box 19 x

351040, Miami, Florida 33135, and OSHA Publication 2206 (29CFR1910), Superintendent of Documents,; U.S. Government Printing Office, Washington, D.C. 20402 for more details on the following:

- Ventilation:** Use adequate ventilation, local exhaust at the arc, or both, to keep fumes and gases from the worker's breathing zone and the general area.
- Respiratory Protection:** Use respirable fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TL ;l
- Eye Protection:** Wear helmet or use face shield with filter lens shade number (see ANSIASC Z49.1-- Section 4.2)- Provide protective screens and flash goggles to shield others.
- Protective clothing:** Wear hand, head, and body protection that help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats shoulder protection, as well as dark substantial clothing. Train the welders not to touch live electrical parts and to insulate themselves from the ground.

SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storage: Maintain good housekeeping procedures to prevent dust accumulation during grinding- Avoid dust inhalation and direct skin contact with dust.

Other Precautions: Clean up using methods that avoid dust generation such as vacuum (with appropriate filter to prevent airborne dust levels which exceed the PEL or TL wet dust mop or wet clean up. If airborne dust is generated, use an appropriate NIOSH approved respirator.

Wash hands thoroughly after handling, before eating or smoking- Wash exposed skin at the end of work shit. Do not shake clothing, rags or other items to remove dust. Remove dust by washing or vacuuming (with appropriate filters) the clothing, rags, or other items.

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Periodic medical examinations are recommended for individuals regularly exposed to dust or mist.

This MSDS contains the following toxic chemicals that are subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CHEMICAL	CAS NUMBER
Chromium	7440-47-3
Cobalt	744048-4
Copper	7440-50-8
Nickel	7440-02-0
Vanadium	7440-62-2
Zinc	7440-66-6



**In case of questions please call
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