



199 Devon Terrace (201) 997-0250 tel
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www.uniteddie.com

ISSUE DATE: 1/29/2002

MATERIAL SAFETY DATA SHEET

MATERIAL NAME: Cemented Carbide Products with Cobalt, Nickel, Nickel-Cobalt, Nickel Chromium binder

PRODUCT USE: Die and Wear Parts

PRODUCT IDENTIFIER: All United Die Company Inc. grades containing Cobalt, Nickel, Nickel-Cobalt-Chromium

CHEMICAL FAMILY: Refractory Metal Carbide

HAZARDOUS INGREDIENTS

Hazardous Ingredients (CAS Registry #)	Approximate Concentration	Exposure Limits		
		ACGIH	U.S. OSHA TWA	U.S. OSHA STEL
Tungsten Carbide (Limits for Tungsten Dust) (12070-12-1)	50-97%	5 mg/m ³	5 mg/m ³	10 mg/m ³
Nickel (7440-02-0)	0-25%	1 mg/m ³	1 mg/m ³	---
Cobalt Metal Dust and Fume (as CO) (7440-8-4)	0-30%	0.02 mg/m ³ A3**	0.1 mg/m ³ ***	---
Tantalum Carbide (Limits for Tantalum Dust) (12070-06-3)	0-22%	5 mg/m ³	5 mg/m ³	---
Chromium Carbide (Limits for Chromium(+3) Dust) (7440-47-3)	0-5%*	0.5 mg/m ³	0.5 mg/m ³	---
Molybdenum (7439-98-7)	0-5%	10 mg/m ³	10 mg/m ³	---
* Depends on grade specifications ** A3 = ACGIH ANIMAL CARCINOGEN *** 0.05 mg/m ³ prior to court decision		TWA- (TIME WEIGHTED AVERAGE) exposure during 8hr period of a 40 hr week STEL (SHORT TERM EXPOSURE LEVEL) 15 minute time weighted average exposure at any time during the work day		



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PHYSICAL DATA

Boiling Point	na	Specific Gravity (H ₂ O = 1)	11.0-15.5
Vapor Pressure	na	Percent Volatile by Volume	0
Vapor Density	na	Evaporation Rate	na
Solubility in H ₂ O	na	How Best Monitored	Air Sample
Freezing Point	na	PH	na
Coefficient of H ₂ O /Oil Distribution	na		

FIRE AND EXPLOSION HAZARD DATA

Flash Point And Method Of Determination: na

Upper Flammable Limit: na

Lower Flammable Limit: na

Auto Ignition Temperature: na

Hazardous Combustion Products/Conditions Of Flammability: Hard Cemented Carbide is not fire hazard. Dusts generated in grinding operations may ignite if allowed to accumulate and subjected to an ignition source.

Extinguishing Media: For powder fires, smother with dry sand, dry dolomite, ABC fire extinguisher or flood with water.

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

Explosion Data- Sensitivity To Mechanical Impact: na

Explosion Data- Sensitivity To Static Discharge: na

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.

REACTIVITY DATA

Conditions Under Which Product Is Unstable: na

Incompatibility/conditions Of Reactivity: Contact of dust with strong oxidizers may cause fires or explosions. Avoid contact with strong acids.

Hazardous Decompositon Products: na

Hazardous Poymeriztions: Won't occur.



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TOXICOLOGICAL PROPERTIES

Routes Of Entry: Inhalation acute; Inhalation chronic; ingestion; skin contact; eye contact.

Effects Of Accute Or Chronic Exposure, Irritancy And Sensitization:

Inhalation: Dust from grinding can cause irritation of the nose and throat. In some cases, it also has the potential for causing or aggravating transient or permanent respiratory or pulmonary disease, including occupational asthma, pulmonary fibrosis, and interstitial pneumonitis. It is reported that cobalt indicated a lack of correlation between onset of symptoms, length of exposure and the development of interstitial fibrosis. Symptoms may include productive coughing, wheezing, shortness of breath, chest tightness, weight loss, a high incidence of minor or marked radiological abnormalities, and the development of hypersensitivity asthma in some people. Respiratory or pulmonary disease is progressive and can lead to permanent disability or death.

Ingestion: It has been suggested that ingestion of significant amounts of cobalt has the potential for causing blood, heart, and other organ problems. Current scientific information indicates no adverse effects are likely from ingestion of small amounts of nickel dust generated from these products.

Skin Contact: May cause irritation or an allergic skin rash due to cobalt sensitization. It has been reported that an allergic dermatitis has been caused by contact with cobalt and its compounds. Certain skin conditions, such as dry skin, may be aggravated by exposure.

Eye Contact: May cause irritation.

Carcinogenicity: Nickel has been identified as a confirmed human carcinogen section A1 of Appendix A of Threshold.

Limit Values And Biological Exposure Indices published by ACGIH. The ACGIH has identified cobalt metal as an animal carcinogen. Other sources indicated that cobalt metal is a suspected or confirmed carcinogen.

Reproductive Toxicity: na

Mutagenicity: na

Teratogenicity: na

PREVENTATIVE MEASURES

Personal Protection Equipment And Specific Engineering Controls:

Respiratory Protection: Use appropriate, NIOSH approved respirator if airborne dust concentrations exceed the applicable exposure limits. For proper selection of respirators see also American National Standard Practices for Respiratory Protection Z88.2-1969.

Ventilation: Use local ventilation, which is adequate to limit personal exposure to airborne dust levels, which do not exceed the applicable exposure limits. If such equipment is not available, use respirators as specified above.

Gloves, Barrier Cream: Protective gloves or barrier creams are recommended when contact with dust or mist is likely. Prior to applying the barrier cream or gloves, wash thoroughly.



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Eye Protection: Safety glasses with side shields or goggles are recommended.

Periodic Medical Examinations: It has been noted by the U.S. Occupational Safety and Health Administration that literature suggests possible adverse effects of exposure to cobalt below the permitted exposure limits. Accordingly, periodic medical examinations are recommended for individuals regularly exposed.

Spill Or Leak Procedures: Ventilate area or spill. Clean up using methods which avoid dust generation such a vacuum (with appropriate filter to prevent airborne dust levels which exceed exposure limits), wet mop or wet clean-up. If air-borne dust is generated, use an appropriate, approved respirator.

Waste Disposal Method: Dispose of in accordance with appropriate governmental regulations. May be sold as scrap or reclaim.

Other Precautions: Wash hands thoroughly after handling and before eating or smoking. Wash exposed skin at the end of the work shift. Do not shake clothing, rags, or other items to remove dust. Dust should be removed by washing or vacuuming (with appropriate filters) the clothing, rags, or other items.

FIRST-AID MEASURES

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

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

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

Eye Contact: If irritation occurs, flush with copious amounts of water. If irritation persists, seek medical attention.

PREPARTATION INFORMATION

Any questions please call:
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