SAFETY DATA SHEET

SECTION 1: Product and Company Identification

1.1. Product identifier

Product code	**Carbide Saws**
Issue date	10-July-2015
Revised	01-January-2019
Version number	01

1.2. Details of the supplier of the safety data sheet

Manufacturer/Supplier

Company name	Martindale Electric Co.
Address	1375 Hird Avenue Cleveland, OH 44107
Telephone	216-521-8567
Email	sales@martindaleco.com

1.3. Emergency telephone

Number	216-521-8567

Section 1 notes: These parts are sold as articles and as such fall under the 'article exemption' in OSHA's Hazard Communication Standard (29 CFR 1910.1200). The following information is provided in the event that any cutting or grinding on the part is undertaken.

SECTION 2: Hazards identification

2.1. Carbide products in their usual physical form do not pose any health hazards. However, when subjected to welding, burning, sawing, brazing, grinding, etc. potentially hazardous fumes or dust may be generated.

2.2. If acute overexposure to fumes occurs, remove victim to fresh air. Then, seek medical assistance.

If acute overexposure to dust occurs:

For eyes – Flush well with running water. Seek medical attention.

For skin – Brush off excessive dust, wash area well with soap and water.

SECTION 3: Composition/information on ingredients

3.1. Mixtures

General information

Chemical name	% Concentration*	CAS-No.
Tungsten carbide	50-97	12070-12-1
Nickel	0-25	7440-02-0
Cobalt	0-30	7440-48-4
Tantalum carbide	0-22	12070-06-3
Chromium carbide	0-5	12012-35-0
Molybdenum	0-5	7439-98-7

*Depends on grade specification

SECTION 4: First aid measures

4.1. Description of first aid measures

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

In case of 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.

In case of eye contact:
If irritation occurs, flush with copious amount of water. If irritation persists, seek medical attention.

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

SECTION 5: Firefighting measures

5.1. Fire Hazard Data:

Autoignition: Not applicable

Flash Point: Not applicable

Flammability Limits (vol/vol%): Lower: Not applicable Upper: Not applicable

Hazardous Combustion Products/Conditions of Flammability: 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.

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 confined to a small area, use a respirator approved for toxic dusts and fumes. For a larger fire, fire fighters should use a 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.

SECTION 6: Accidental release measures

6.1. Steps to be taken in the event that dust or sludge is released or spilled:
Ventilate area of spill.

Clean up using methods that avoid dust generations such as a vacuum (with appropriate filter to prevent airborne dust levels which exceed the PEL or TLV), wet dust mop or wet clean up.

If airborne dust is generated, use an appropriate NIOSH approved respirator.

6.2. Waste disposal method:
Dispose of any waste in accordance with appropriate government regulations. May be sold for recycling.

SECTION 7: Handling and storage

7.1. Handling: When using wet grinding equipment with closed water circuit, a suitable additive should be used to prevent cobalt from accumulating in the water. A recommended additive is CASTROL PE 425/6. Clean equipment using methods that avoid dust generation such as vacuum (with appropriate filter to prevent airborne dust levels which exceed the PEL or TLV), wet dust mop or wet clean up. If airborne dust is generated, use an appropriate NIOSH approved respirator. Wash hands thoroughly after handling dust or sludge, before eating or smoking. Wash exposed skin at the end of work shift. Do not shake clothing, rags, or other items to remove dust. Dust should be removed from contaminated items by washing or vacuuming using the appropriate filters and precautions. Allergic persons sensitive to cobalt or nickel must not be involved in activities where exposure to cobalt or nickel occurs. Periodic medical examinations are recommended for individuals regularly working in the vicinity of dust and/or mist and for those who voluntarily or are required to wear respirators.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component	CAS-No.	Value	Control	Basis

			parameters	
Tungsten carbide (as W)	12070-12-1	TWA	5 mg/m^3	USA. ACGIH - TLV
Nickel	7440-02-0	TWA	1 mg/m^3	USA. Occupational Exposure Limits (OSHA)
Cobalt	7440-48-4	TWA	0.1 mg/m^3	USA. Occupational Exposure Limits (OSHA)
Tantalum carbide (as Ta)	12070-06-3	TWA	5 mg/m^3	USA. Occupational Exposure Limits (OSHA)
Chromium carbide (as Cr III)	12012-35-0	TWA	0.5 mg/m^3	USA. Occupational Exposure Limits (OSHA)
Molybdenum	7439-98-7	TWA	15 mg/m^3	USA. Occupational Exposure Limits (OSHA)

8.2. Exposure controls

Appropriate Engineering Controls: Handle in accordance with good industrial hygiene and safety practice. Wash hand before breaks and at the end of workday.

8.3. Personal Protective Equipment:

Eye/face protection: Safety glasses with side shields or goggles are recommended.

Skin protection: Protective gloves or barrier cream are recommended when contact with dust or mist is likely. Prior to applying the barrier cream or use of protective gloves, wash thoroughly.

Respiratory protection: Use the appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met. Use local exhaust ventilation that is adequate to limit personal exposure to respirable airborne dust to levels that do not exceed the PEL or TLV. If such equipment is not available, use a respirator as specified above.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance	Dark gray; solid metal
b) Odor	No odor
c) Odor Threshold	No odor threshold
d) pH	Not applicable
e) Melting point/freezing point	Not applicable
f) Initial boiling point and boiling range	Not applicable
g) Evaporation rate	Not applicable
h) Vapor pressure	Not applicable
i) Vapor density	Not applicable
j) Specific gravity (H_2O=1)	11.0 to 15.5
k) Water solubility	Insoluble
l) Partition coefficient: n-octanol/water	Not applicable
m) Percent volatile by volume	0

9.2. Other safety information

no data available

SECTION 10: Stability and reactivity

10.1. Chemical stability

Stable

10.2. Conditions to avoid

Not applicable

10.3. Materials to avoid

Strong acids

10.4. Incompatibility

Contact of dust with strong oxidizers may cause fire or explosions

10.5. Hazardous decomposition products

None

10.6. Hazardous polymerization

Will not occur

SECTION 11: Toxicological information

11.1. Effects of Acute 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: Can 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.

Mutagenicity
Not applicable

Reproductive toxicity
Not applicable

Teratogenicity
Not applicable

SECTION 12: Ecological information

12.1. Not available

SECTION 13: Disposal considerations

13.1. Waste treatment methods: Dispose of in accordance with appropriate governmental regulations. Maybe sold as scrap or reclaim.

SECTION 14: Transport information

DOT (US)	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods
Packaging group	Not regulated

SECTION 15: Regulatory information

SARA 302 Components

SARA 302: As an article, no chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: As an article, no components are subject to reporting levels established by SARA Title III, Section 313.

STATE	REVISION DATE
California OELs/PELs	2015-01-01
Chromium Carbide, Cobalt, Molybdenum, Nickel, Tungsten Carbide	
Connecticut Hazardous Material Survey	
Chromium Carbide, Nickel	
Illinois Chemical Safety Act	1998-08-14

Chromium Carbide, Nickel

Indiana Occupational Health and Safety Standards 1998-08-14

Chromium Carbide, Cobalt, Molybdenum, Nickel

Kentucky Occupational Health and Safety Standards

Chromium Carbide, Cobalt, Molybdenum, Nickel

Maine Chemicals of Concern List 2012-07-01

Cobalt, Nickel, Tungsten Carbide

Massachusetts Right-to-Know Substance List

Cobalt, Molybdenum, Nickel

Massachusetts Toxic or Hazardous Substances List 2015-01-16

Chromium Carbide

Minnesota Hazardous Substances List 2008-06-11

Chromium Carbide, Cobalt, Molybdenum, Nickel, Tungsten Carbide

New Jersey Right-to-Know Hazardous Substance List 2010

Chromium Carbide, Cobalt, Molybdenum, Nickel, Tungsten Carbide

New York City Community Right-to-Know Hazardous Substance List

Chromium Carbide, Cobalt, Molybdenum, Nickel, Tungsten Carbide

Pennsylvania Right-to-Know Hazardous Substances

Chromium Carbide, Cobalt, Molybdenum, Nickel

Rhode Island Hazardous Substances Right-to-Know Act 2011-07

Chromium Carbide, Cobalt, Nickel

Tennessee OELs 2008-06

Chromium Carbide, Cobalt, Molybdenum, Nickel, Tungsten Carbide

Texas Effects Screening Levels 2014-03-17

Chromium Carbide, Cobalt, Molybdenum, Nickel, Tungsten Carbide

Vermont Chemicals of High Concern to Children 2014-06-10

Cobalt

Washington Chemicals of High Concern to Children 2013-10-22

Cobalt, Molybdenum

California Prop. 65 Components

This product does contain chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

HMIS Rating
Health Hazard: 2
Flammability: 0
React: 0

Further Information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Martindale Electric Co. and its affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Preparation Information
Martindale Electric Co.
216-521-8567