



700

## MATERIAL SAFETY DATA SHEET

DATE PRINTED: JAN 10, 2000

MSDS NO. SAWHEEL000

OUTBOUND

Diamond or Cubic Boron Nitride Grinding Wheels



### SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Norton Company

## PRODUCT NAME

Diamond or Cubic Boron Nitride Grinding Wheels

## TRADE NAME

## MANUFACTURER

Norton Company, 1 New Bond St.

Worcester, MA, 01615

(508) 795-5000

## REVISION DATE

8/20/1999

## MSDS PRINT FORMAT

NUSA

### SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	75.000- 81.000	1344-28-1
Cubic Boron Nitride	1.000- 5.000	10043-11-5
Cobalt(*)	55.000- 60.000	7440-48-4
Copper(*)	80.000- 85.000	7440-50-8
Cured PhenolFormaldehyde Resin	1.000- 5.000	9003-35-4
Diamond	1.000- 5.000	7782-40-3
Graphite Powder	15.000- 20.000	7782-42-5
Iron	1.000- 5.000	7439-89-6
Manganese(*)	3.000	7439-96-5
Molybdenum	1.000	7439-98-7
Nickel(*)	75.000- 82.000	7440-02-0
Phosphorus - yellow (*)	1.000	7723-14-0
Amorphous Silica, Fused	1.000- 5.000	60676-86-0
@Crystalline Silica, Quartz	1.000	14808-60-7
Silicon	5.000	7440-21-3
Silicon Carbide	65.000- 73.000	409-21-2
Silver(*)	80.000- 85.000	7440-22-4
Tin	20.000- 25.000	7440-31-5
Tungsten Carbide	70.000- 75.000	12070-12-1

## OTHER

(\*) This substance is regulated under section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and the Canadian National Pollution Reduction Initiative (NPRI).

(@) Actual grinding tests with wheels known to contain Cobalt Aluminate did not produce any detectable amount of Cobalt. The grinding wheel may be comprised of only some of the above.

### SECTION 3. HAZARDS IDENTIFICATION

#### INHALATION ACUTE EXPOSURE EFFECTS

Dust may be slightly irritating to eyes and respiratory tract at high concentrations.

#### INHALATION CHRONIC EXPOSURE EFFECTS

Chronic: May affect breathing capacity.

For products containing phneol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin

sensitization and airway obstruction.  
For products containing inorganic fluorides,  
excessive exposure to inorganic fluorides have been shown to increase  
bone density.

**EYE CONTACT ACUTE EXPOSURE EFFECTS**

Dust may irritate eyes.

**SKIN CONTACT ACUTE EXPOSURE EFFECTS**

Some may experience skin irritation from dust.

**INGESTION ACUTE EXPOSURE EFFECTS**

No known adverse effects, but ingestion not recommended.

**SECTION 4. FIRST AID MEASURES****INHALATION**

Remove to fresh air. If breathing has stopped, give artificial  
respiration. Get medical attention immediately.

**SKIN CONTACT**

Wash affected areas with soap and water. Obtain medical assistance.

**EYE CONTACT**

Wash with large amounts of water. Obtain first aid and medical  
assistance, if needed.

**INGESTION**

Obtain medical assistance.

**SECTION 5. FIRE FIGHTING MEASURES****FIRE FIGHTING PROCEDURES**

Not Applicable

**HAZARDOUS PRODUCTS/COMBUSTION**

None.

**HAZARD RATING SOURCE**

NFPA

**HEALTH**

1

**FLAMMABILITY**

0

**REACTIVITY**

0

**OTHER****SECTION 6. ACCIDENTAL RELEASE MEASURES****CLEAN-UP**

Follow normal clean up procedures.

**SECTION 7. HANDLING AND STORAGE****HANDLING**

Always HANDLE AND STORE wheels in a CAREFUL manner.

Always VISUALLY INSPECT all wheels before mounting.

Always CHECK MACHINE SPEED against the established maximum safe  
operating speed MARKED ON THE WHEEL.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****VENTILATION PROTECTION**

Handle with adequate ventilation. See OSHA 29 CFR 1910.94  
(ventilation) and 29 CFR 1910.1000 (Air contaminants).

**RESPIRATORY PROTECTION**

Respirators are required when airborne contaminant levels exceed the  
TLV(s).

**EYE PROTECTION**

Always WEAR SAFETY GLASSES or some type of eye protection when  
grinding.

**OTHER PROTECTION**

Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES****APPEARANCE & ODOR**

Solid article. Odorless.

**SECTION 10. STABILITY AND REACTIVITY****INCOMPATIBILITIES**

Not Applicable

**DECOMPOSITION**

In use, dusts and decomposing odors may be generated. In most cases, the material removed from the workpiece will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde. For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

**SECTION 11. TOXICOLOGICAL INFORMATION****CARCINOGENICITY**

Nickel - EPA-A, IARC-2B, NTP-R, NIOSH-X, MAK-1; Cobalt - IARC-2B, MAK-2; Crystalline Silica (Quartz) - IARC-2A, NIOSH-X, NTP-R; Silver - EPA-D; Phosphorous Yellow - EPA-D; Copper - EPA-D; Manganese - EPA-D.

**LD50/LC50**

Values are not appropriate or available.

**SECTION 12. ECOLOGICAL INFORMATION****CHEMICAL FATE**

Vitrified products do not appreciably decay.

Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.

Metal bonded products do not appreciably decay.

**SECTION 13. DISPOSAL CONSIDERATIONS****WASTE DISPOSAL**

Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.

**SECTION 14. TRANSPORT INFORMATION****HAZARD CLASS**

This product is not hazardous as defined by the Department of Transportation. (USA)

This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

**SECTION 15. REGULATORY INFORMATION**

SUBSTANCE DESCRIPTION	EXPOSURE LIMITS/REGULATORY INFORMATION				MOL
	UNITS	OSHA	ACGIH		
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000	6
Cubic Boron Nitride	MG/M3	10.0000	10.0000	10.0000	10

Cobalt(*)	MG/M3	0.0500	0.0200	0.1000	0
Copper(*)	MG/M3	0.1000	0.2000	0.2000	0
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000	0
Diamond	PPM	0.0000	0.0000	0.0000	0
Graphite Powder	MG/M3	10.0000	2.0000	0.0000	6
Iron	MG/M3	1.0000	1.0000	1.0000	0
Manganese(*)	MG/M3	1.0000	1.0000	1.0000	5
Molybdenum	MG/M3	10.0000	10.0000	10.0000	10
Nickel(*)	MG/M3	1.0000	1.0000	1.0000	0
Phosphorus - yellow (*)	MG/M3	0.1000	0.1000	0.1000	0
Amorphous Silica, Fused	MG/M3	0.1000	0.1000	0.0000	0
@Crystalline Silica, Quartz	MG/M3	0.1000	0.1000	0.0000	0
Silicon	MG/M3	10.0000	10.0000	0.0000	0
Silicon Carbide	MG/M3	10.0000	10.0000	10.0000	4
Silver(*)	MG/M3	0.0100	0.1000	0.1000	0
Tin	MG/M3	2.0000	2.0000	2.0000	0
Tungsten Carbide	MG/M3	0.0000	0.0000	0.0000	0

**LEGEND:**

**EXPOSURE LIMIT DESCRIPTIONS**

CA PROP 65

This product contains chemicals, Crystalline Silica, Nickel and Cobalt, known to the State of California to cause cancer.

**TSCA**

Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.

**DOMESTIC SUBSTANCE LIST**

All components of this product are found on the Domestic Substance List.

**SECTION 16. OTHER INFORMATION**

**KEY TO ABBREVIATIONS:**

EQ=Equal

LT=Less Than

GT=Greater Than

AP=Approximately

TR=Trace

ND=No Data available

**DISCLAIMER**

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