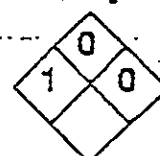


MET046

Flammability
RatingHealth
RatingReactivity
Rating

HAZARD RATING

Please rate consistent with NFPA Code

MATERIAL SAFETY DATA SHEET

SECTION I NAME AND PRODUCT

MANUFACTURER'S NAME NORTON COMPANY	CONTACT RONALD L. KARBOWSKI
ADDRESS (STREET, CITY, STATE AND ZIP CODE) NEW BOND STREET, WORCESTER, MA 01615-0008	EMERGENCY TELEPHONE NO. 508-795-2255
NAME, COMMON NAME OR SPECIFICATION AMOND OR CUBIC BORON NITRIDE GRINDING WHEELS	APPROVED BY <i>[Signature]</i> DATE 2/3/92
FAMILY OR PRODUCT TYPE ANY GRADE	

SECTION II COMPOSITION PER 29CFR 1910.1200 (G) (4)

CHEMICAL NAME	MAX %	COMMON NAME	REG* (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARCINOGEN (Y/N)
Silver	85	Silver	Y	7440-22-4	.01mg/m ³	.1mg/m ³	N
Cobalt	60	Cobalt	Y	7440-48-4	.05mg/m ³	.05mg/m ³	N
Copper	85	Copper	Y	7440-50-8	1mg/m ³	1mg/m ³	N
Tin	25	Tin	Y	7440-31-5	2mg/m ³	2mg/m ³	N
Graphite	20	Graphite	Y	7782-42-5	15MPPCF	2mg/m ³ (Respirable Dust)	N
Crystolon	73	Crystolon	Y	409-21-2	10mg/m ³	10mg/m ³	N
Alundum	81	Alundum	Y	1344-28-1	(Total Dust)	(Total Dust)	N
Nickel	82	Nickel	Y	7440-02-0	1mg/m ³	1mg/m ³	Y*
Phosphorus	1	Phosphorus	Y	7723-14-0	0.1mg/m ³	0.1mg/m ³	N
Manganese	3	Manganese	Y	7439-96-5	5mg/m ³	5mg/m ³	N
Molybdenum	1	Molybdenum	Y	7439-98-7	15mg/m ³	10mg/m ³	N
Silicon Powder	5	Silicon Powder	Y	7440-21-3	**NAIF	10mg/m ³	N
Crystalline Silica	<1	Crystalline Silica	Y	14808-60-7	0.1mg/m ³	0.1mg/m ³	Y
Tungsten Carbide	75	Tungsten Carbide	Y	12070-12-1	5mg/m ³	5mg/m ³	N

Materials are regulated by OSHA 29 CFR 1910.1200, Hazard Communication Standard, and/or the Massachusetts General Law Chapter 111F, Right To Know Regulations. *Listed by NTP as a Carcinogen. Other studies are not in agreement with IRAC that nickel is a probable human carcinogen.

Grinding tests with wheels known to contain Crystalline Silica did not produce any detectable amount of respirable free Silica.

SECTION III PHYSICAL AND CHEMICAL DATA

MELTING POINT **NAIF	SPECIFIC GRAVITY 2-4
PERCENT VOLATILE BY VOL **NAIF	VAPOR DENSITY **NAIF
SOLUBILITY IN WATER Slight	SOLUBILITY IN ALCOHOL **NAIF
APPEARANCE AND ODOR	SOLID PRODUCT: - MAY GIVE OFF ODOR IN USE

SECTION IV SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE - NONE
PRECAUTIONS: **NAIF

SECTION V CORROSIVITY AND REACTIVITY DATA

STABILITY <input type="checkbox"/> UNSTABLE <input checked="" type="checkbox"/> STABLE	POLYMERIZATION <input type="checkbox"/> MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR
MATERIALS TO AVOID (MATERIALS TO AVOID) **NAIF	
COMPOSITION PRODUCTS	
In dust and decomposing odors are 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.	
PRECAUTIONS TO BE AVOIDED **NAIF	

SECTION VI HEALTH, FIRST AID AND MEDICAL DATA

HAZARDOUS ROUTE(S) OF ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	FIRST AID AND MEDICAL INFORMATION
INHALATION (Dry Grinding)	ACUTE: POSSIBLE COUGH CHRONIC: MAY AFFECT BREATHING CAPACITY.	REMOVE TO FRESH AIR. ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN MEDICAL ASSISTANCE.
INGESTION (Dry Grinding)	NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.	OBTAIN MEDICAL ASSISTANCE.
SKIN CONTACT & ABSORPTION (During Grinding)	SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.	WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.
CONTACT (Dry Grinding)	DUST MAY IRRITATE EYES.	WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.
HEARING POTENTIAL (Dry Grinding)	GRINDING MAY CREATE ELEVATED SOUND LEVELS WHICH MAY AFFECT HEARING AND MAY AGGRAVATE PREEXISTING RESPIRATORY CONDITIONS.	OBTAIN MEDICAL ASSISTANCE. THERE IS LIMITED INFORMATION THAT CRYSTALLINE SILICA IS A CARCINOGEN.

SECTION VII STORAGE, HANDLING AND USE PROCEDURES

STORAGE AND HANDLING	ANSI STANDARD B7.1.
USE	USE WITH ADEQUATE VENTILATION. SEE OSHA 29CFR 1910.94 (VENTILATION) and 29CFR 1910.1000 (AIR CONTAMINANTS)
SAFETY	SAFETY TO BE TAKEN IN CASE OF LEAKS OR SPILLS. FOLLOW NORMAL CLEANUP PROCEDURES.
DISPOSAL METHOD	USE STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS.

SECTION VIII PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) AS NEEDED. FOR APPROVED DUST RESPIRATORS SEE OSHA 29CFR 1910.134.	
VENTILATION	LOCAL RECOMMENDED
	MECHANICAL (GENERAL) RECOMMENDED
	OTHER **NAIF
PROTECTIVE GLOVES	RECOMMENDED
HEARING PROTECTION	RECOMMENDED SEE OSHA 29CFR 1910.133
OTHER EQUIPMENT	AS NEEDED HEARING PROTECTION SEE OSHA 29CFR 1910.95 (HEARING PROTECTION)
MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL	
SEE SECTION VII & VIII	

SECTION IX FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	**NAIF	METHOD USED	**NAIF	FLAMMABLE LIMITS	LEL **NAIF	UEL **NAIF
EXTINGUISHING MEDIA	USE WATER					
SPECIAL FIRE FIGHTING PROCEDURES	NONE					
EXPLOSION POTENTIAL	**NAIF					

FOR COMPANY USE

Information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, Norton does not warrant the accuracy of the information or the suitability of the recommendations, and assumes no liability.