



Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard 29 CFR 1910.1200.

This standard must be consulted for specific requirements.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Grinding Wheel
(Vitrified Bonded Abrasive Product)

Drawing Number: 58-97-1090
Issue Date March 2015
Supersedes Date: July 2011

Recommended use of product surface conditioning is abrasive material for mechanical industry

SECTION 2: HAZARDS IDENTIFICATION

Health	Environmental	Physical
Eye Irritation: No classified hazards	Acute Toxicity: No classified hazards	Flammable liquid: No classified hazards
Skin Irritation: No classified hazards	Chronic Toxicity: No classified hazards	
Acute Toxicity, Oral: No classified hazards		
Acute Toxicity, Inhalation: No classified hazards		

GHS Label

No applicable labeling

Hazard Statements	Precautionary Statements
May cause eye irritation	IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. IF eye irritation persists: get medical attention/advice.
May cause mild skin irritation	Wash skin/hands thoroughly after handling. IF skin irritation occurs: get medical attention/advice.
May be harmful if swallowed	IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.
May be harmful if inhaled	IF INHALED: call a POISON CENTER or doctor/physician if you feel unwell.
	Use personal protective equipment as required.

Some dust generated from intended use may cause some irritation to eyes, skin and respiratory.
Fiberglass content is a possible carcinogen when dust is inhaled.

Classified Hazards

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200. This SDS contains valuable information for the safe handling and proper use of this product. Save this SDS for future reference.

Other Hazards

None known

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Components listed in this section may contribute to the potential hazards associated with the dust that has been generated from the base material being ground, cut or sanded.

Chemical Name	CAS #	Concentration
Aluminum oxide	1344-28-1	40-85
Sodium alum fluoride	15096-52-3	1-15
Iron disulfide	1309-36-0	0-15
Zirconium dioxide	7440-67-7	10-50
Phenol formaldehyde (resin)	9003-35-4	10-20
Calcium oxide	1305-78-8	0-5
Carbon black	1333-86-4	0-5
Iron oxide	1309-37-1	0-5
Titanium dioxide	13463-67-7	0-5
Fiberglass	65997-17-3	<15

Note: This product has been evaluated and does not require any hazard warning label under the OSHA Hazard Communication Standard.

SECTION 4: FIRST AID MEASURES

EYE CONTACT:

Dust generated by grinding, sanding and cutting may cause eye irritation. Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. If symptoms persist, contact a physician.

SKIN CONTACT:

Remove product from the skin by washing with a mild soap and water. If irritation persists seek medical attention.

INHALATION:

Excessive dust inhalation may affect breathing function. Use recommended OSHA or NIOSH approved respirator as required. If inhaled remove to fresh air. Seek medical help if symptoms persist.

INGESTION:

Ingestion is not anticipated. Seek medical help if symptoms persist.

CARCINOGENICITY:

Fiberglass content is a possible carcinogen when dust is inhaled.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

No further data known.

SECTION 5: FIRE FIGHTING MEASURES

NFPA 704 Hazard Class

No Data

HMIS



0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

EXTINGUISHING MEDIA:

Use an extinguishing agent suitable for the surrounding fire.

UNUSUAL FIRE & EXPLOSION HAZARDS:

No further data known.

FIRE-FIGHTING PROCEDURES AND EQUIPMENT:

Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage. See Section 8 of the MSDS for other PPE to be worn as conditions warrant.

See Section 9 for Flammable Properties including Flash Point and Flammable (explosive) limits.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Clean-Up Measures:

Use normal clean up procedures. Dispose of waste in accordance with local, state and Federal regulations.

SECTION 7: HANDLING AND STORAGE

HANDLING:

Normal handling and storage methods should be used with caution not to drop or crush. Cotton fiber abrasive products should be stored in a dry area in rooms not subject to extreme temperature changes, since excessive humidity and dampness may affect some bonds. Never expose cotton fiber products to water or solvents.

Do not operate above maximum operating speed marked on the wheel.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Selection of personal protective equipment should be based upon the anticipated exposure and made in accordance with OSHA's Personal Protective Equipment Standard found in 29 CFR 1910 Subpart I. The following information may be used to assist in PPE selection.

Chemical Name	OSHA PEL	ACGIH TLV	California Prop 65 Reg. Y/N	IARC/NTP Y/N
Aluminum oxide	TWA 15mg/m ³ *	TWA 10mg/m ³ *	N	N
Sodium alum fluoride	TWA 2.5mg/m ³ *	TWA 2.5mg/m ³ *	N	N
Iron disulfide	NAIF	NAIF	N	N

Zirconium dioxide	TWA 5mg/m ³ *	TWA 5mg/m ³ *	N	N
Phenol formaldehyde (resin)	TWA 15mg/m ³ *	TWA 10mg/m ³ *	N	N
Calcium oxide	TWA 5mg/m ³ *	TWA 2mg/m ³ *	N	N
Carbon black	TWA 3.5mg/m ³ *	TWA 3.5mg/m ³ *	Y	N
Iron oxide	TWA 10mg/m ³ *	TWA 5mg/m ³ *	N	N
Titanium dioxide	TWA 15mg/m ³ *	TWA 10mg/m ³ *	N	N
Fiberglass	TWA 15mg/m ³ *	TWA 10mg/m ³ *	N	N

EYE PROTECTION

Wear eye protection appropriate to prevent eye exposure. Most of the dust that is generated is from the material being ground, sanded or cut and may cause eye irritation. Wearing goggles or full face shield is recommended.

SKIN PROTECTION:

Protective gloves may be useful. Long sleeved shirts should be worn during grinding.

RESPIRATORY PROTECTION:

A respirator may be worn to reduce the exposure to dust. Select a NIOSH/MSHA approved respirator appropriate for the type and physical character of the airborne material. A self-contained breathing apparatus is recommended in all situations where airborne contaminant concentration has not been confirmed to be below safe levels. Respirator use should comply with the OSHA Respirator Protection Standard found in CFR 1910.134.

ENGINEERING CONTROLS:

Normal general ventilation is expected to be adequate. It is recommended that ventilation be designed in all instances to maintain airborne concentrations at lowest practicable levels. Ventilation should at a minimum, prevent airborne concentrations from exceeding any exposure limits listed in Section 2 of this MSDS.

The user may wish to refer to 29 CFR 1910.1000 (d) (2) and the ACGIH "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices" (Appendix C) for the determination of exposure limits of mixtures. An industrial hygienist or similar professional may be consulted to confirm that the calculated exposure limits apply.

OTHER PRECAUTIONS:

Wear ear plugs or muffs while grinding.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Data represent typical values and are not intended to be specifications. NA=Not Applicable; ND=Not Determined

Physical state:..... Solid
 Colour: Various
 Odor: Odorless
 Odor Threshold: ND
 pH: ND
 Melting/Freezing Point: NA
 VOC Content:..... ND

Flammability (solid, gas): NA
 Upper Explosive Limits (vol % in air): NA
 Lower Explosive Limits (vol % in air):..... NA
 Vapor pressure: NA
 Vapor density: NA
 Relative density:..... ND
 Solubility:..... Insoluble

Boiling Point: NA
Flash Point: NA
Evaporation Rate: NA
Specific Gravity: >1

Partition Coefficient: ND
Auto-ignition Temperature: ND
Decomposition Temperature: ND
Viscosity: ND

SECTION 10: STABILITY AND REACTIVITY

INCOMPATIBLE MATERIALS:

This product is incompatible with strong acids.

DECOMPOSITION PRODUCTS MAY INCLUDE:

This product will not decompose. Dusts are generated while in use, which will consist of degradation products from the wheel and from the work piece.

CONDITIONS TO AVOID:

Avoid contact with incompatible materials and exposure to extreme temperatures.

POLYMERIZATION:

This product is not expected to polymerize.

CHEMICAL STABILITY:

This product is stable.

REACTIVITY:

Stable under normal ambient and anticipated conditions of use.

SECTION 11: TOXICOLOGY INFORMATION

LIKELY ROUTES OF EXPOSURE: **Inhalation, Eye and Skin contact**

ACUTE SYMPTOMS AND EFFECTS:

Inhalation: No further toxicological data known
Eye contact: No further toxicological data known
Skin contact: No further toxicological data known
Ingestion: No further toxicological data known

OTHER:

No further data known.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

This product has not been evaluated for ecotoxicity. As with any industrial chemical, exposure to the environment should be prevented and minimized wherever possible.

TOXICITY:

No data available

PERSISTENCE AND DEGRADABILITY (BIOPERSISTENCY & BIODEGRADABILITY):

The degree of biodegradability and persistence of this product has not been determined.

POTENTIAL OF BIOACCUMULATION:

No data available

MOBILITY IN SOIL:

No data available

OTHER ADVERSE EFFECTS:

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Dispose in accordance with the local, state and Federal regulations.

SECTION 14: TRANSPORT INFORMATION

DOT HAZARDOUS MATERIAL INFORMATION:

Not otherwise DOT regulated.

SECTION 15: REGULATORY INFORMATION

FEDERAL REGULATIONS:

SARA 313:

This product contains NONE of the substances 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.

Clean Water Act / Oil Pollution Act:

This product contains mineral oil and is subject to regulation by Section 311 of the Clean Water Act and the Oil Pollution Act. Releases of the product into or leading to surface waters must be reported to the National Response Center at 1-800-424-8802.

CERCLA Reportable Quantity:

Any components listed below have been assigned a reportable quantity (RQ) by the Federal EPA. Releases of the product into the environment that exceed the RQ for a particular component must be reported to the National Response Center at 1-800-424-8802.

Toxic Substance Control Act:

The components of this product are listed on the TSCA Inventory.

Ozone Depleting Substances:

This product contains no ozone depleting substances as defined by the Clean Air Act.

Hazardous Air Pollutants:

Any components listed below are defined by the Federal EPA as hazardous air pollutants.

STATE REGULATIONS:

This product contains mineral oil, and as used, may be regulated by the state used oil regulations. Check with the appropriate state agency to determine whether such a regulation exists.

No further data known.

SECTION 16: OTHER INFORMATION

ABBREVIATIONS:

- TSCA** Toxic Substance Control Act
- ICAO** International Civil Aviation Organization
- IMDG** International Maritime Dangerous
- OSHA** Occupational Safety and Health
- IARC/NTP** International Agency for Research on Cancer/National Toxicology Program
- SARA** Superfund Amendments and Reauthorization Act of 1986
- ACGIH** American Conference of Governmental Industrial Hygienists
- NIOSH/MSHA** National Institute for Occupational Safety Health/
Mine Safety and Health Administration
- WHMIS** Workplace Hazardous Materials Information System

Prepared by: Milwaukee Electric Tool Corporation

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. **MILWAUKEE ELECTRIC TOOL CORPORATION** makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereto. All risks associated with product use are assumed by the user.



Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard 29 CFR 1910.1200.

This standard must be consulted for specific requirements.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Grinding Wheels (Organic)	Drawing Number:	58-97-1155
		Issue Date:	March 2015
		Supersedes Date:	July 2011

Recommended use of product surface conditioning is abrasive material for mechanical industry

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification

Health	Environmental	Physical
Eye Irritation: No classified hazards	Acute Toxicity: No classified hazards	Flammable liquid: No classified hazards
Skin Irritation: No classified hazards	Chronic Toxicity: No classified hazards	
Acute Toxicity, Oral: No classified hazards		
Acute Toxicity, Inhalation: No classified hazards		

GHS Label

No applicable labeling

Hazard Statements	Precautionary Statements
Causes eye irritation	Wash skin/hands thoroughly after handling.
Causes mild skin irritation	IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
May be harmful if swallowed	IF eye irritation persists: get medical attention/advice.
May be harmful if inhaled	IF skin irritation occurs: get medical attention/advice.
	IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.
	IF INHALED: call a POISON CENTER or doctor/physician if you feel unwell.
	Use personal protective equipment as required.

Some dust generated from intended use may cause some irritation to eyes, skin and respiratory.

Fiberglass content is a possible carcinogen when dust is inhaled.

Classified Hazards

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200. This SDS contains valuable information for the safe handling and proper use of this product. Save this SDS for future reference.

Other Hazards

None known

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Components listed in this section may contribute to the potential hazards associated with the dust that has been generated from the base material being ground, cut or sanded.

Chemical Name	CAS #	Concentration
Phenol formaldehyde polymer	9003-35-4	10-30
Calcium carbonate	1317-65-3	1-5
Fiberglass	65997-17-3	1-5
Sulfates/Sulfides	No data	5-10
Inorganic fluorides	NA	1-5
Aluminum Oxide, non-fibrous	1344-28-1	60-100

Note: This product has been evaluated and does not require any hazard warning label under the OSHA Hazard Communication Standard.

Note: This abrasive product may be comprised of one or the other of the above abrasives as well as two or more of the substances.

SECTION 4: FIRST AID MEASURES

EYE CONTACT:

Dust generated by grinding, sanding and cutting may cause eye irritation. Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. If symptoms persist, contact a physician.

SKIN CONTACT:

Remove product from the skin by washing with a mild soap and water. If irritation persists seek medical attention.

INHALATION:

Excessive dust inhalation may affect breathing function. Use recommended OSHA or NIOSH approved respirator as required. If inhaled remove to fresh air. Seek medical help if symptoms persist.

INGESTION:

Ingestion is not anticipated. If this does occur, watch person for several days to make sure intestinal blockage does not occur. Seek medical help if symptoms persist.

CARCINOGENICITY:

Fiberglass content is a possible carcinogen when dust is inhaled.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

No further data known.

SECTION 5: FIRE FIGHTING MEASURES

NFPA 704 Hazard Class



HMIS



0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

EXTINGUISHING MEDIA:

Use an extinguishing agent suitable for the surrounding fire.

UNUSUAL FIRE & EXPLOSION HAZARDS:

No further data known.

FIRE-FIGHTING PROCEDURES AND EQUIPMENT:

Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage. See Section 8 of the MSDS for other PPE to be worn as conditions warrant.

See Section 9 for Flammable Properties including Flash Point and Flammable (explosive) limits.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Clean-Up Measures:

Use normal clean up procedures. Dispose of waste in accordance with local, state and Federal regulations.

SECTION 7: HANDLING AND STORAGE

HANDLING:

Normal handling and storage methods should be used with caution not to drop or crush. Cotton fiber abrasive products should be stored in a dry area in rooms not subject to extreme temperature changes, since excessive humidity and dampness may affect some bonds. Never expose cotton fiber products to water or solvents.

Do not operate above maximum operating speed marked on the wheel.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Selection of personal protective equipment should be based upon the anticipated exposure and made in accordance with OSHA's Personal Protective Equipment Standard found in 29 CFR 1910 Subpart I. The following information may be used to assist in PPE selection.

Chemical Name	OSHA PEL	ACGIH TLV	California Prop 65 Reg. Y/N	IARC/NTP Y/N
Phenol formaldehyde polymer	ND	ND	N	N
Calcium carbonate	ND	ND	N	N
Fiberglass	TWA 5mg/m ³ *	TWA 5mg/m ³ *	N	N
Sulfates/Sulfides	ND	ND	N	N

Inorganic fluorides	TWA 2.5mg/m ³ *	TWA 2.5mg/m ³ *	N	N
Aluminum Oxide, non-fibrous	TWA 5mg/m ³ *	TWA 10mg/m ³ *	N	N

EYE PROTECTION

Always wear eye protection appropriate to prevent eye exposure. Most of the dust that is generated is from the material being ground, sanded or cut and may cause eye irritation.

SKIN PROTECTION:

Protective gloves may be useful. Long sleeved shirt and long pants.

RESPIRATORY PROTECTION:

A respirator may be worn to reduce the exposure to dust. Select a NIOSH/MSHA approved respirator appropriate for the type and physical character of the airborne material. A self-contained breathing apparatus is recommended in all situations where airborne contaminant concentration has not been confirmed to be below safe levels. Respirator use should comply with the OSHA Respirator Protection Standard found in CFR 1910.134.

ENGINEERING CONTROLS:

Normal general ventilation is expected to be adequate. It is recommended that ventilation be designed in all instances to maintain airborne concentrations at lowest practicable levels. Ventilation should at a minimum, prevent airborne concentrations from exceeding any exposure limits listed in Section 2 of this MSDS.

The user may wish to refer to 29 CFR 1910.1000 (d) (2) and the ACGIH "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices" (Appendix C) for the determination of exposure limits of mixtures. An industrial hygienist or similar professional may be consulted to confirm that the calculated exposure limits apply.

OTHER PRECAUTIONS:

Use of this product may create elevated sound levels. Hearing protection should be worn where required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Data represent typical values and are not intended to be specifications. NA=Not Applicable; ND=Not Determined

- | | |
|---|--|
| Physical state: Solid | Flammability (solid, gas): NA |
| Colour: Various | Upper Explosive Limits (vol % in air): NA |
| Odor: Odorless | Lower Explosive Limits (vol % in air): NA |
| Odor Threshold: ND | Vapor pressure: ND |
| pH: ND | Vapor density: ND |
| Melting/Freezing Point: ND | Relative density: ND |
| VOC Content: ND | Solubility: ND |
| Boiling Point: ND | Partition Coefficient: ND |
| Flash Point: NA | Auto-ignition Temperature: ND |
| Evaporation Rate: ND | Decomposition Temperature: ND |
| Specific Gravity: ND | Viscosity: ND |

SECTION 10: STABILITY AND REACTIVITY

INCOMPATIBLE MATERIALS:

This product is incompatible with strong acids.

DECOMPOSITION PRODUCTS MAY INCLUDE:

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

CONDITIONS TO AVOID:

Avoid contact with incompatible materials and exposure to extreme temperatures.

POLYMERIZATION:

This product is not expected to polymerize.

CHEMICAL STABILITY:

This product is stable.

REACTIVITY:

Stable under normal ambient and anticipated conditions of use.

SECTION 11: TOXICOLOGY INFORMATION

LIKELY ROUTES OF EXPOSURE: **Inhalation, Eye and Skin contact**

ACUTE SYMPTOMS AND EFFECTS:

Inhalation: No further toxicological data known
Eye contact: No further toxicological data known
Skin contact: No further toxicological data known
Ingestion: No further toxicological data known

OTHER:

No further data known.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

This product has not been evaluated for ecotoxicity. As with any industrial chemical, exposure to the environment should be prevented and minimized wherever possible.

TOXICITY:

No data available

PERSISTENCE AND DEGRADABILITY (BIOPERSISTENCY & BIODEGRADABILITY):

Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.

POTENTIAL OF BIOACCUMULATION:

No data available

MOBILITY IN SOIL:

No data available

OTHER ADVERSE EFFECTS:

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Dispose in accordance with the local, state and Federal regulations.

SECTION 14: TRANSPORT INFORMATION

DOT HAZARDOUS MATERIAL INFORMATION:

Not otherwise DOT regulated.

SECTION 15: REGULATORY INFORMATION

FEDERAL REGULATIONS:**SARA 313:**

This product contains NONE of the substances 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.

Clean Water Act / Oil Pollution Act:

This product contains mineral oil and is subject to regulation by Section 311 of the Clean Water Act and the Oil Pollution Act.

CERCLA Reportable Quantity:

Any components listed below have been assigned a reportable quantity (RQ) by the Federal EPA.

Toxic Substance Control Act:

The components of this product are listed on the TSCA Inventory.

Ozone Depleting Substances:

This product contains no ozone depleting substances as defined by the Clean Air Act.

Hazardous Air Pollutants:

Any components listed below are defined by the Federal EPA as hazardous air pollutants.

STATE REGULATIONS:

This product contains mineral oil, and as used, may be regulated by the state used oil regulations. Check with the appropriate state agency to determine whether such a regulation exists.

No further data known.

SECTION 16: OTHER INFORMATION

ABBREVIATIONS:

TSCA Toxic Substance Control Act
ICAO International Civil Aviation Organization
IMDG International Maritime Dangerous

OSHA Occupational Safety and Health
IARC/NTP International Agency for Research on Cancer/National Toxicology Program
SARA Superfund Amendments and Reauthorization Act of 1986
ACGIH American Conference of Governmental Industrial Hygienists
NIOSH/MSHA National Institute for Occupational Safety Health/
Mine Safety and Health Administration
WHMIS Workplace Hazardous Materials Information System

Prepared by: Milwaukee Electric Tool Corporation

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. **MILWAUKEE ELECTRIC TOOL CORPORATION** makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereto. All risks associated with product use are assumed by the user.



Material Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard 29 CFR 1910.1200.

This standard must be consulted for specific requirements

IDENTITY (As used on label and list)

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Grinding Wheels

49-94-4580, 49-94-4585, 49-94-5080, 49-94-7075,

49-94-7085, 49-94-9085

Section I

Manufacturer's Name

Milwaukee Electric Tool Corporation

Section II - Hazardous Ingredients/Identity Information

Hazardous Components [Specific Chemical Identity, Common name (s)]

Ingredient	% by Weight	OSHA Reg. Y/N	CAS #	OSHA PEL	ACGIH TLV	California Prop 65 Reg. Y/N	IARC/NTP Y/N
Aluminum Oxide, Non-Fibrous	40-90%	N	1344-28-1	15mg/m3	10mg/m3	N	N
Calcium Oxide	1-5%	N	1305-78-8	5mg/m3	2mg/m3	N	N
Carbon Black	0.1-1%	N	1333-86-4	3.5mg/m3	3.5mg/m3	N	N
Cured Phenol Formaldehyde Resin	3-20%	N	9003-35-4	0ppm	0ppm	N	N
Fiberglass	1-10%	N	65997-17-3	1fbr/cc	0fbr/cc	N	N
Inorganic Fluorides **	2-10%	N	NA	2.5mg/m3	2.5mg/m3	N	N
Manganese Compounds (*) **	1-5%	N	NA	NA	NA	N	N
@Crystalline Silica, Quartz	0.001-1%	N	14808-60-7	.1mg/m3	.1mg/m3	Y	N
Sodium Silicate	5-15%	N	1344-09-8	15mg/m3	0mg/m3	N	N
Sulfates & Sulfides **	1-10%	N	NA	0mg/m3	0mg/m3	N	N
Zinc Compound (*) **	1-5%	N	NA	NA	NA	N	N
Zirconium Oxide	30-40%	N	1314-23-4	5mg/m3	5mg/m3	N	N

(*) 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). The OSHA exposure limit represented above is for respirable dust and assumed to be worst case exposure to 100% crystalline silica; 10mg/m3/(%silica+2).

** Substance is a compound and/or mixture.

@ Actual grinding tests with wheels known to contain Crystalline Silica did not produce any detectable amount of respirable free Crystalline silica. The grinding wheel may be comprised of only some of the above.

DOT Hazard Classification: Non-hazardous

SARA Title III Section 313: This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

HMIS® Rating Numbers	Health	Flammability	Reactivity	Personal Protection	
	1	0	0	A	
Hazard Ratings:	0 = Minimum hazard	1 = Slight hazard	2 = Moderate hazard	3 = Serious hazard	4 = Severe hazard
	A = Goggles	B = Goggles + Gloves	C = Face Shield, Gloves + Apron	X = Special, See sections VII & VIII of this sheet	

Section III - Physical/Chemical Characteristics

Boiling Point N/A	Specific Gravity (H ₂ O=1) N/A
Vapor Pressure (mm/Hg.) N/A	Melting Point N/A
Vapor Density (Air=1) N/A	Evaporation Rate N/A
Solubility in Water Non-soluble	
Appearance and Odor Solid article. Odorless.	

Legend:

Y - Yes

N - No

N/A - Not Applicable

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media N/A			
Special Fire Fighting Procedures N/A			
Unusual Fire and Explosion Hazards None			

Section V - Reactivity Data

Stability	Unstable		Conditions to avoid: N/A
	Stable	X	

Incompatibility (Material to avoid):

Avoid acids of all types with a pH < 4.0

Hazardous Decomposition or Byproducts

In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace 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.

Hazardous	May Occur		Conditions to avoid: N/A
Polymerization	Stable	X	

Section VI - Health Hazard Data

Route(s) of Entry: During normal use	Inhalation? Affects breathing, irritation	Skin? Irritation	Ingestion? None
---	--	---------------------	--------------------

Health Hazards (Acute and Chronic)

ACUTE: Dust may be slightly irritating to eyes and respiratory tract at high concentrations. **CHRONIC:** May affect breathing capacity. For products containing phenol/formaldehyde resin dust generated from intended use may contain trace amounts of phenol and formaldehyde which may cause skin sensitization and airway obstruction. For products containing inorganic fluorides, excessive exposure to inorganic fluorides has been shown to increase bone density.

Signs and Symptoms of Exposure:

INHALATION: May cause airway obstruction, difficulty breathing. **EYES:** May irritate eyes. **SKIN:** May experience skin irritation from dust. **INGESTION:** No known adverse affects, but ingestion is not recommended.

Medical Conditions Generally Aggravated by Exposure:

N/A

Emergency and First Aid Procedures

INHALATION: Remove to fresh air. If breathing stops, get medical attention immediately and give artificial respiration. **EYES:** Wash with large amounts of water and obtain medical attention if needed. **SKIN:** Wash affected areas with soap and water and obtain medical attention if needed. **INGESTION:** Call poison control center, hospital emergency room, or physician immediately.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released if Spilled

Follow normal clean up procedures.

Waste Disposal Method

Use standard landfill methods consistent with applicable Federal, State, Provincial, and local laws. Products with listed fluorides may have slightly soluble fluoride swarf.

Precautions to Be Taken in Handling and Storing

Always handle and store wheels in a careful manner

Other Precautions

ALWAYS visually inspect wheels before mounting, check machine speed against the established maximum safe operating speed marked on the wheel, check mounting flanges for equal and correct diameter, use mounting blotters, be sure work rest is properly adjusted, use a safety guard covering at least one-half of the grinding wheel, allow newly mounted wheels to run at operating speed with guard in place for at least one minute before grinding, and turn off coolant before stopping wheel to avoid an out-of-balance wheel.

Legend:

Y - Yes

N - No

N/A - Not Applicable

Section VIII - Control Measures

Respiratory Protection (*Specify Type*)

Respirators required when airborne contaminant levels exceed the TLV's.

Ventilation	Local Exhaust	Special
	Use adequate ventilation.	N/A
	Mechanical	Other
	N/A	See OSHA 29 CFR 1910.94 (Ventilation) and 29 CFR 1910.1000 (Air Contaminants)
Protective Gloves		Eye Protection
N/A		Always wear safety glasses or some type of eye protection.

Other Protective Clothing or Equipment:

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).

Work/Hygienic Practices

N/A

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. MILWAUKEE ELECTRIC TOOL CORPORATION makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereof.

Legend:

Y - Yes

N - No

N/A - Not Applicable



Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard 29 CFR 1910.1200.
 This standard must be consulted for specific requirements

IDENTITY (As used on label and list)

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Grinding Wheels
49-94-4570, 49-94-5730, 49-94-5740, 49-94-7735, 49-94-9735

Section I

Manufacturer's Name
 Milwaukee Electric Tool Corporation

Section II - Hazardous Ingredients/Identity Information

Hazardous Components [Specific Chemical Identity, Common name (s)]

Ingredient	% by Weight	OSHA Reg. Y/N	CAS #	OSHA PEL	ACGIH TLV	California Prop 65 Reg. Y/N	IARC/NTP Y/N
Aluminum Oxide, Non-Fibrous	9-75%	N	1344-28-1	15mg/m3	10mg/m3	N	N
Cured Phenol Formaldehyde Resin	5-20%	N	9003-35-4	0ppm	0ppm	N	N
Fiberglass	1-10%	N	65997-17-3	1fbr/cc	0fbr/cc	N	N
Iron Disulfides	3-15%	N	12068-85-8	10mg/m3	10mg/m3	N	N
Silicon Carbide	10-75%	N	409-21-2	10mg/m3	10mg/m3	N	N
Sulfates & Sulfides **	1-15%	N	NA	0mg/m3	0mg/m3	N	N

** Substance is a compound and/or mixture.

DOT Hazard Classification: Non-hazardous

SARA Title III Section 313: This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

HMIS [®] Rating Numbers	Health	Flammability	Reactivity	Personal Protection	
	1	0	0	A	
Hazard Ratings:	0 = Minimum hazard	1 = Slight hazard	2 = Moderate hazard	3 = Serious hazard	4 = Severe hazard
	A = Goggles	B = Goggles + Gloves	C = Face Shield, Gloves + Apron	X = Special, See sections VII & VIII of this sheet	

Section III - Physical/Chemical Characteristics

Boiling Point N/A	Specific Gravity (H ₂ O=1) N/A
Vapor Pressure (mm/Hg.) N/A	Melting Point N/A
Vapor Density (Air=1) N/A	Evaporation Rate N/A
Solubility in Water Non-soluble	
Appearance and Odor Solid article. Odorless.	

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media N/A			
Special Fire Fighting Procedures N/A			
Unusual Fire and Explosion Hazards None			

Section V - Reactivity Data

Stability	Unstable	Conditions to avoid: N/A
	Stable	
	X	

Incompatibility (Material to avoid):

Avoid acids of all types with a pH < 4.0

Hazardous Decomposition or Byproducts

In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace 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.

Hazardous Polymerization	May Occur		Conditions to avoid: N/A
	Stable	X	

Section VI - Health Hazard Data

Route(s) of Entry: During normal use	Inhalation? Affects breathing, irritation	Skin? Irritation	Ingestion? None
---	--	---------------------	--------------------

Health Hazards (Acute and Chronic)

ACUTE: Dust may be slightly irritating to eyes and respiratory tract at high concentrations. **CHRONIC:** May affect breathing capacity. For products containing phenol/formaldehyde resin dust generated from intended use may contain trace amounts of phenol and formaldehyde which may cause skin sensitization and airway obstruction. For products containing inorganic fluorides, excessive exposure to inorganic fluorides has been shown to increase bone density.

Signs and Symptoms of Exposure:

INHALATION: May cause airway obstruction, difficulty breathing. **EYES:** May irritate eyes. **SKIN:** May experience skin irritation from dust. **INGESTION:** No known adverse affects, but ingestion is not recommended.

Medical Conditions Generally Aggravated by Exposure:

N/A

Emergency and First Aid Procedures

INHALATION: Remove to fresh air. If breathing stops, get medical attention immediately and give artificial respiration. **EYES:** Wash with large amounts of water and obtain medical attention if needed. **SKIN:** Wash affected areas with soap and water and obtain medical attention if needed. **INGESTION:** Call poison control center, hospital emergency room, or physician immediately.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released if Spilled

Follow normal clean up procedures.

Waste Disposal Method

Use standard landfill methods consistent with applicable Federal, State, Provincial, and local laws. Products with listed fluorides may have slightly soluble fluoride swarf.

Precautions to Be Taken in Handling and Storing

Always handle and store wheels in a careful manner

Other Precautions

ALWAYS visually inspect wheels before mounting, check machine speed against the established maximum safe operating speed marked on the wheel, check mounting flanges for equal and correct diameter, use mounting blotters, be sure work rest is properly adjusted, use a safety guard covering at least one-half of the grinding wheel, allow newly mounted wheels to run at operating speed with guard in place for at least one minute before grinding, and turn off coolant before stopping wheel to avoid an out-of-balance wheel.

Section VIII - Control Measures

Respiratory Protection (Specify Type)

Respirators required when airborne contaminant levels exceed the TLV's.

Ventilation	Local Exhaust	Special
	Use adequate ventilation.	N/A
	Mechanical	Other
	N/A	See OSHA 29 CFR 1910.94 (Ventilation) and 29 CFR 1910.1000 (Air Contaminants)

Protective Gloves

N/A

Eye Protection

Always wear safety glasses or some type of eye protection.

Other Protective Clothing or Equipment:

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).

Work/Hygienic Practices

N/A

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. MILWAUKEE ELECTRIC TOOL CORPORATION makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereof.

Legend:

Y - Yes

N - No

N/A - Not Applicable



Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard 29 CFR 1910.1200.
 This standard must be consulted for specific requirements

IDENTITY (As used on label and list)

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Cut-Off Wheels

49-94-4510, 49-94-4515, 49-94-4520, 49-94-4525, 49-94-5010,
 49-94-5020, 49-94-6330, 49-94-6340, 49-94-6360, 49-94-7015,
 49-94-7020, 49-94-7025, 49-94-9015, 49-94-9025

Section I

Manufacturer's Name

Milwaukee Electric Tool Corporation

Section II - Hazardous Ingredients/Identity Information

Hazardous Components [Specific Chemical Identity, Common name (s)]

Ingredient	% by Weight	OSHA Reg. Y/N	CAS #	OSHA PEL	ACGIH TLV	California Prop 65 Reg. Y/N	IARC/NTP Y/N
Aluminum Oxide, Non-Fibrous	60-90%	N	1344-28-1	15mg/m3	10mg/m3	N	N
Cured Phenol/Formaldehyde Resin	2-15%	N	9003-35-4	N/A	N/A	N	N
Inorganic Fluorides **	1-15%	N	NA	2.5mg/m3	2.5mg/m3	N	N
Iron Disulfide	2-30%	N	12068-85-8	10mg/m3	10mg/m3	N	N

** Substance is a compound and/or mixture

DOT Hazard Classification: Non-Hazardous

SARA Title III Section 313: This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

HMIS® Rating Numbers	Health	Flammability	Reactivity	Personal Protection	
	1	0	0	A	
Hazard Ratings:	0 = Minimum hazard	1 = Slight hazard	2 = Moderate hazard	3 = Serious hazard	4 = Severe hazard
	A = Goggles	B = Goggles + Gloves	C = Face Shield, Gloves + Apron	X = Special, See sections VII & VIII of this sheet	

Section III - Physical/Chemical Characteristics

Boiling Point N/A	Specific Gravity (H ₂ O=1) N/A
Vapor Pressure (mm/Hg.) N/A	Melting Point N/A
Vapor Density (Air=1) N/A	Evaporation Rate N/A
Solubility in Water Non-Soluble	
Appearance and Odor Solid article. Odorless.	

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media N/A			
Special Fire Fighting Procedures N/A	Unusual Fire and Explosion Hazards N/A		

Section V - Reactivity Data

Stability	Unstable	Conditions to avoid: N/A
	Stable X	

Incompatibility (Material to avoid):

Avoid acids of all types with a pH < 4.0

Legend:

Y - Yes

N - No

N/A - Not Applicable

Hazardous Decomposition or Byproducts

In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace 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.

Hazardous Polymerization	May Occur		Conditions to avoid: N/A
	Stable	X	

Section VI - Health Hazard Data

Route(s) of Entry: During normal use	Inhalation? Affects breathing capacity	Skin? Irritation	Ingestion? No affects
---	---	---------------------	--------------------------

Health Hazards (Acute and Chronic)

ACUTE: Dust may be slightly irritating to eyes and respiratory tract at high concentrations. **CHRONIC:** May affect breathing capacity. For products containing phenol/formaldehyde resin dust generated from intended use may contain trace amounts of phenol and formaldehyde which may cause skin sensitization and airway obstruction. For products containing inorganic fluorides, excessive exposure to inorganic fluorides has been shown to increase bone density.

Signs and Symptoms of Exposure:

INHALATION: May cause airway obstruction. **EYES:** May irritate eyes. **SKIN:** Some may experience skin irritation. **INGESTION:** No known adverse affects, but ingestion not recommended.

Medical Conditions Generally Aggravated by Exposure:

None

Emergency and First Aid Procedures

INHALATION: Remove to fresh air. If breathing stops, get medical attention immediately and give artificial respiration. **EYES:** Wash with large amounts of water and obtain medical attention if needed. **SKIN:** Wash affected areas with soap and water and obtain medical attention. **INGESTION:** Call poison control center, hospital emergency room, or physician immediately.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released if Spilled

Follow normal clean up procedures.

Waste Disposal Method

Use standard landfill methods consistent with applicable Federal, State, Provincial, and local laws. Products with listed fluorides may have slightly soluble fluoride swarf.

Precautions to Be Taken in Handling and Storing

Always handle and store in a careful manner.

Other Precautions

ALWAYS visually inspect wheels before mounting, check machine speed against the established maximum safe operating speed marked on the wheel, check mounting flanges for equal and correct diameter, use mounting blotters, be sure work rest is properly adjusted, use a safety guard covering at least one-half of the grinding wheel, allow newly mounted wheels to run at operating speed with guard in place for at least one minute before grinding, and turn off coolant before stopping wheel to avoid an out-of-balance wheel.

Section VIII - Control Measures

Respiratory Protection (Specify Type)

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

Ventilation	Local Exhaust	Special
	It is recommended when general ventilation is not keeping the airborne concentration below the TLV.	None
	Mechanical	Other
	None	None

Protective Gloves

None

Eye Protection

Always wear safety glasses

Other Protective Clothing or Equipment:

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).

Work/Hygienic Practices

None

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. MILWAUKEE ELECTRIC TOOL CORPORATION makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereof.

Legend:

Y - Yes

N - No

N/A - Not Applicable