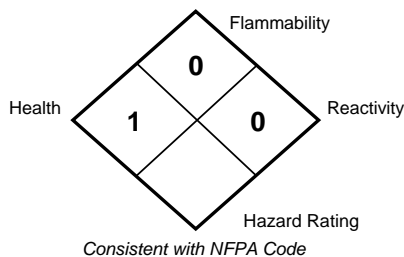


MATERIAL SAFETY DATA SHEET

TYROLIT Wickman Inc.



Section I - Identification

Name and Address

Tyrolit Wickman Inc.
10325 Capital Avenue
Oak Park, MI 48237

Emergency Telephone Number

(800) 366-4431

Information Telephone Number

(800) 366-4431

Contact Person

EH&S Manager

Revision Date

5/22/2003

Chemical Name and Synonyms

Resin Bond: Silicon Carbide and
Aluminum Oxide Products

Trade Name & Synonyms

Resin (B and CD Bond): A and/or C Abrasive
Grinding Wheels, Sticks or Hones

Chemical Family

Carbide
Sulfide
Fluorides

Rubber/Resin
Organic Polymer Element
Metal
Aldehyde
Organic Distillates
Carbonate Wax
Glass
Oxide
Silicates
Sulfates

Formula

SiC
FeS2
CaF2, Na3AlF6,
KBF4, NaF
S, C

Cu, Al
C5H4O2
Coal Tar Residue
CaCO3 Hydrocarbons
Silicate Base Oxide Glass
CaO, TiO2, Al2O3, ZrO2
CaSiO3, AlSiO5, H2Mg3(SiO3)4
BaSO4, K2SO4

Section II - Hazardous Ingredients

Ingredient	CAS #	WGT %	OSHA TWA (mg/m ³)	ACGIH TWA (mg/m ³)	CARCIN.	SARA 313
Aluminum Oxide	1344-28-1	0-99	10 Total*	10 Total	No	No
Titanium Dioxide	13463-67-7	0-3	10 Total*	10 Total	No	No
Zirconium Oxide (as Zr)	1314-23-4	0-25	5	5	No	No
Silicon Carbide	409-21-2	0-99	10 Total*	10 Total	No	No
Calcium Oxide	1305-78-8	0-6	5	2	No	No
Talc	14807-96-6	0-10	2	2	No	No
Fluorides (as F)	NAIF	0-15	2.5	2.5	NAIF	NAIF
Cryolite	15096-52-3	0-15	2.5	2.5	No	No
Calcium Fluoride	7789-75-5	0-15	2.5	2.5	No	No
Sodium Fluoride	7681-49-4	0-1	2.5	2.5	No	No
Potassium Fluoroborate	14075-53-7	0-8	2.5	2.5	No	No
Calcium Carbonate	1317-65-3	0-6	15 Total*	10 Total	No	No
Iron Sulfide	1309-36-0	0-22	NAIF	NAIF	No	No
Calcium Silicate	1344-95-2	0-25	15 Total*	10 Total	No	No
Fiber Glass	65997-17-3	0-33	15	10	No	No
Aluminum	7429-90-5	0-12	15 Total	10	No	Yes
Copper	7440-50-8	0-85	1	1	No	Yes
Cured Phenolic Resin	68585-23-9	0-30	NAIF	NAIF	NAIF	NAIF
Saran	9011-06-07	0-2	10	10	No	No
Furfural	98-01-1	0-5	2 ppm(Skin)	2 ppm(Skin)	No	No
Creosote Oil	8001-58-9	0-1	0.2	0.2	Yes	Yes

Boiler Slag	68476-96-0	0-45	15 Total*	10 Total*	No	No
Cured Epoxy Resin	NAIF	0-25	NAIF	NAIF	No	No
Barium Sulfate	7727-43-7	0-20	10 Total*	10	No	Yes
Potassium Sulfate	7778-80-5	0-7	NAIF	NAIF	No	No
Kyanite (<8% Quartz)	1302-76-7	0-8	0.1(SiO2)	0.1(SiO2)	Yes(SiO2)	No
Graphite	7782-42-5	0-5	2.5	2	No	No
Depolymerized Rubber	68425-13-8	0-6	NAIF	NAIF	No	No
Sulfur	7704-34-9	0-3	NAIF	NAIF	No	No
Paraffin	8002-74-2	0-3	2 (fume)	2 (fume)	No	No

*5mg/m3 Respirable dust; NL=Not Listed; NAIF=No Available Information Found; NA=Not Applicable

Section III - Physical Data

Boiling Point (deg F):	NAIF	Specific gravity (H₂O=1):	1.5-3.5
Vapor Pressure (mm Hg):	NAIF	% Volatiles by Vol (%):	NAIF
Vapor Density (Air=1):	NA	Evaporation Rate:	NA
Solubility in Water:	Slight	Melting Point:	NA

Appearance and Odor: Solid, reddish brown or gray, odorless except pungent odor w when in use

Section IV - Fire & Explosion Hazard Data

Flash Point:	NA	Flammability Limits:	LEL: NA UEL: NA
Extinguishing Media:	Water	Special Fire Fighting Procedures:	None
Unusual Fire & Explosion Hazard:	None		

Section V - Health Hazard Data

Primary Routes of Entry	Acute and Chronic Health Effects	First Aid & Medical Information
Inhalation (dust)	Pulmonary effects such as coughing, shortness of breath and loss of breathing capacity.	Fresh air, artificial respiration. Seek medical assistance.
Eye (dust and particles)	Dust may irritate eyes. Particles may cut, burn or otherwise damage eyes.	Wash with large amounts of water. Seek medical attention.
Skin (dust and particles)	Hot particles from grinding may produce minor burns. Dust may irritate skin.	Clean with soap and water. Obtain medical assistance.
Ingestion	NAIF	Seek medical assistance.
Other Health Risks	Grinding may create sound and vibration levels that could affect hearing and	Obtain medical evaluation and use proper protection.

Section VI - Reactivity Data

Stability: (X) Stable () Unstable	Polymerization: () May occur (X) May not Occur
Incompatibility (materials to avoid): None known	
Decomposition Products: Unknown, but dusts and fumes are generated during the grinding process. These are produced from the abrasive product, the workpiece and coolant (if used).	
Conditions to be Avoided: Exposure to extremes of temperatures and moisture	

Section VII - Spill or Leak Procedures

- Storage and Handling:**
See ANSI Standard B7.1 Safety Requirements for the Use, Care and Protection of Abrasive Wheels.
- Steps to be Taken in Case of Leaks or Spills:**
Collect the material in the most convenient and safe manner possible for reclamation or disposal.
- Waste Disposal Method:**
Secured sanitary landfill in accordance with federal, state and local regulations and laws.

Section VIII - Personal Protection Information

Respirator Protection (specify type):

As required. See OSHA regulation 29 CFR 1910.94 for approved dust respirators.

Ventilation Local & General:

Recommended. See OSHA 29 CFR 1910.94 for ventilation and OSHA 29 CFR 1910.1000 for air contaminants.

Other:

As required to keep dusts and fumes below TLV.

Eye Protection:

Required. Refer to OSHA 29 CFR 1910.133

Protective Gloves:

As needed in most operations. Recommended in portable grinding operations or in operations where substantial vibrations are transmitted to the hands or arms. Special protective gloves shall be used in the latter case.

Hearing:

As needed except in operations with noise level exceeding statutory limits. See OSHA 29 CFR 1910.95 for hearing protection.