

Material Safety Data Sheet



Organic Bonded Abrasives, Type 1

1. Product and company identification

Product name	: Organic Bonded Abrasives, Type 1
Trade name	: POLIFLEX Fine Grinding Points, Polyurethane Bond (PUR Bond); POLIFLEX Fine Grinding Points, Leather Bond (LR Bond); POLIFLEX Fine Grinding Points, Textile Bond (TX Bond); Mounted Points, Resin Bond; POLIFLEX marbling tools PFZY; Mounted Points with thread insert bond B; POLIFLEX blocks PFB, PUR Bond; Sharpening block DSB (PUR Bond); POLIFLEX Discs PFD (PUR Bond); COMBIDISC TX Discs; POLIFLEX Fine grinding wheels (PUR Bond); POLIFLEX Fine grinding wheels (TX Bond); Grinding Tools, Resin Bond
Material uses	: Grinding.
Supplier/Manufacturer	: PFERD INC. 30 Jytek Drive Leominster, MA 01453 Tel: (978) 840-6420 Fax: (978) 840-6421 Email: Jim.Haglund@pferdusa.com
MSDS #	: 10
Validation date	: 09/15/2008
Responsible name	: Atrion Regulatory Services, Inc.
Emergency telephone number (with hours of operation)	: 978-790-3249 Contact Person: Mr. Mark Leblanc 8.00 am to 17.30 p.m. Eastern Time

2. Hazards identification

Physical state	: Solid. [Various shapes (wheels, discs, points or blocks).]
OSHA/HCS status	: This product is a manufactured product under the Canadian WHMIS and an Article under the United States Hazard Communication System. Therefore it is EXEMPTED from the regulatory requirements under WHMIS and HCS.
Emergency overview	: Most dust generated will be from the workpiece and not from the abrasive. Breathing dust generated during grinding may cause respiratory irritation. Resin bond mounted points and grinding wheels are manufactured Articles and as such are not considered to be controlled products under O.S.H.A and under W.H.M.I.S. when used in accordance with industry safety standards.
Potential acute health effects	
Inhalation	: Breathing dust generated during grinding may cause respiratory irritation.
Ingestion	: No known significant effects or critical hazards.
Skin	: Prolonged contact with dust from product may cause irritation.
Eyes	: Dust generated during grinding may irritate eyes.
Potential chronic health effects	
Chronic effects	: Contains material that can cause target organ damage.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Target organs	: Contains material which causes damage to the following organs: lungs, upper respiratory tract, eye, lens or cornea, stomach.
Over-exposure signs/symptoms	

2. Hazards identification

- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:
irritation
redness
- Eyes** : Adverse symptoms may include the following:
irritation
watering
redness
- Medical conditions aggravated by over-exposure** : Some grinding operations may cause noise or vibration irritation. Prolonged exposure to elevated noise levels during operations may affect hearing. Most of the dust generated during grinding is from the base material being ground and the potential hazard from this exposure must be evaluated.

See toxicological information (section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
Aluminum Oxide	1344-28-1	<95
Silicon carbide	409-21-2	<90
Fibre glass	65997-17-3	<20
Cryolite	13775-53-6	<12
Silicon dioxide, amorphous	7631-86-9	<8
Sulfur	7704-34-9	<2
Zinc oxide	1314-13-2	<2

Canada

Name	CAS number	%
Aluminum Oxide	1344-28-1	<95
Silicon carbide	409-21-2	<90
Fibre glass	65997-17-3	<20
Cryolite	13775-53-6	<12
Silicon dioxide, amorphous	7631-86-9	<8
Sulfur	7704-34-9	<2
Zinc oxide	1314-13-2	<2

The tools may be comprised of 1 or more of the above abrasives and ingredients.

This product is a manufactured product under the Canadian WHMIS and an Article under the United States Hazard Communication System. Therefore it is EXEMPTED from the regulatory requirements under WHMIS and HCS.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.
- Skin contact** : Wash with soap and water. Get medical attention if symptoms occur.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

- Personal precautions** : Keep unnecessary and unprotected personnel from entering. Provide adequate ventilation. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Avoid breathing dusts. Do not dry sweep dust. Wet dust with water before sweeping or use a HEPA vacuum to collect dust and clean equipment. Do not use compressed air for cleaning. Wash hands thoroughly after handling.
- Storage** : Store in accordance with ANSI B7.1.

8. Exposure controls/personal protection

	United States
Product name	Exposure limits
Aluminum Oxide	NIOSH REL (United States, 12/2001). TWA: 5 mg/m ³ , (as Al) 10 hour(s). OSHA PEL (United States, 11/2006). TWA: 5 mg/m ³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m ³ 8 hour(s). Form: Total dust
Silicon carbide	ACGIH TLV (United States, 1/2008). TWA: 10 mg/m ³ 8 hour(s). Form: Inhalable fraction TWA: 3 mg/m ³ 8 hour(s). Form: Respirable fraction NIOSH REL (United States, 12/2001). TWA: 5 mg/m ³ 10 hour(s). Form: Respirable fraction OSHA PEL (United States, 11/2006). TWA: 5 mg/m ³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m ³ 8 hour(s). Form: Total dust
Fibre glass	ACGIH TLV (United States). TWA: 10 mg/m ³ Form: Total dust TWA: 5 mg/m ³ Form: Respirable OSHA PEL (United States). TWA: 15 mg/m ³ Form: Total dust TWA: 5 mg/m ³ Form: Respirable NIOSH REL (United States). TWA: 5 mg/m ³ Form: Total dust
Cryolite	ACGIH TLV (United States). TWA: 2.5 mg/m ³
Silicon dioxide, amorphous	NIOSH REL (United States, 12/2001). TWA: 6 mg/m ³ 10 hour(s).
Zinc oxide	ACGIH TLV (United States, 1/2008). STEL: 10 mg/m ³ 15 minute(s). TWA: 2 mg/m ³ 8 hour(s). NIOSH REL (United States, 12/2001). CEIL: 15 mg/m ³ Form: Dust STEL: 10 mg/m ³ 15 minute(s). Form: Fume TWA: 5 mg/m ³ 10 hour(s). Form: Dust and fumes OSHA PEL (United States, 11/2006). TWA: 5 mg/m ³ 8 hour(s). Form: Fume TWA: 5 mg/m ³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m ³ 8 hour(s). Form: Total dust

	Canada
Product name	Exposure limits
Aluminum Oxide	CA Alberta Provincial (Canada, 10/2006). 8 hrs OEL: 10 mg/m ³ 8 hour(s). CA British Columbia Provincial (Canada, 7/2007). TWA: 10 mg/m ³ 8 hour(s). Form: Total dust TWA: 3 mg/m ³ 8 hour(s). Form: Respirable dust CA Ontario Provincial (Canada, 3/2007). TWAEV: 10 mg/m ³ 8 hour(s). Form: Total dust CA Quebec Provincial (Canada, 12/2006). TWAEV: 10 mg/m ³ , (as Al) 8 hour(s). Form: Total dust.
Silicon carbide	CA Alberta Provincial (Canada, 10/2006). 8 hrs OEL: 10 mg/m ³ 8 hour(s). CA British Columbia Provincial (Canada, 7/2007). TWA: 10 mg/m ³ 8 hour(s). Form: Inhalable TWA: 3 mg/m ³ 8 hour(s). Form: Respirable CA Ontario Provincial (Canada, 3/2007).

8 . Exposure controls/personal protection

Fibre glass	<p>TWAEV: 10 mg/m³ 8 hour(s). CA Quebec Provincial (Canada, 12/2006). TWAEV: 10 mg/m³ 8 hour(s). Form: Total dust. ACGIH TLV (United States). TWA: 10 mg/m³ Form: Total dust TWA: 5 mg/m³ Form: Respirable</p>
Sulfur	<p>CA Alberta Provincial (Canada, 10/2006). 8 hrs OEL: 10 mg/m³ 8 hour(s).</p>
Zinc oxide	<p>CA Alberta Provincial (Canada, 10/2006). 8 hrs OEL: 10 mg/m³ 8 hour(s). Form: Dust 8 hrs OEL: 5 mg/m³ 8 hour(s). Form: Fume 15 min OEL: 10 mg/m³ 15 minute(s). Form: Fume CA British Columbia Provincial (Canada, 7/2007). TWA: 2 mg/m³ 8 hour(s). Form: Respirable STEL: 10 mg/m³ 15 minute(s). Form: Respirable CA Ontario Provincial (Canada, 3/2007). TWAEV: 2 mg/m³ 8 hour(s). STEV: 10 mg/m³ 15 minute(s). CA Quebec Provincial (Canada, 12/2006). TWAEV: 5 mg/m³ 8 hour(s). Form: fume STEV: 10 mg/m³ 15 minute(s). Form: fume</p>

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. Use of this product may create elevated sound levels. Hearing protection should be worn where required.

Personal protection

Eyes : Safety glasses.

Skin : Lab coat.

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

Hands : Cotton gloves.

Personal protective equipment (Pictograms) :



HMIS Code/Personal protective equipment : B

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Solid. [Various shapes (wheels, discs, points or blocks).]

10 . Stability and reactivity

Stability : The product is stable.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : None known.

Materials to avoid : Reactive or incompatible with the following materials: oxidizing materials and acids.

Hazardous decomposition products : Dust from grinding could contain ingredients listed in Section 2 and other, potentially more hazardous components of the base material being ground or coatings applied to the base material.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Species	Dose	Result	Exposure
Cryolite	Rat	>5 gm/kg	LD50 Oral	-
Sulfur	Rat	>8437 mg/kg	LD50 Oral	-

Inhalation : Breathing dust generated during grinding may cause respiratory irritation.

Ingestion : No known significant effects or critical hazards.

Skin : Prolonged contact with dust from product may cause irritation.

Eyes : Dust generated during grinding may irritate eyes.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Aluminum Oxide	A4	-	-	-	-	-
Silicon dioxide, amorphous	-	3	-	-	-	-
Zinc oxide	A4	-	-	-	-	-

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Species	Exposure	Result
Cryolite	Crustaceans	48 hours	Acute EC50 156 mg/l
	Fish	96 hours	Acute LC50 47 mg/l
	Algae	72 hours	Chronic LC50 240 mg/l
Sulfur	Daphnia	48 hours	Acute EC50 >5000 ppm
	Fish	96 hours	Acute LC50 >10000000 ug/L
Zinc oxide	Fish	96 hours	Acute LC50 1.1 to 2.5 ppm
	Daphnia	48 hours	Acute LC50 98 ug/L Fresh water

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.



13 . Disposal considerations

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information

DOT/ TDG / IMDG/ IATA : Not regulated.

15 . Regulatory information

United States

HCS Classification

: This product is an Article under the United States Hazard Communication System. Therefore it is EXEMPTED from the regulatory requirements HCS.

U.S. Federal regulations

: **United States inventory (TSCA 8b):** All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Aluminum Oxide; Silicon carbide; Sulfur; Zinc oxide

SARA 311/312 MSDS distribution - chemical inventory - hazard identification

Aluminum Oxide: Immediate (acute) health hazard; Silicon carbide: Immediate (acute) health hazard; Sulfur: Fire hazard; Zinc oxide: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: Zinc oxide

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention No products were found.

Clean Air Act (CAA) 112 regulated flammable substances No products were found.

Clean Air Act (CAA) 112 regulated toxic substances No products were found.

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	: Aluminum Oxide	1344-28-1	60 - 100
	: Zinc oxide	1314-13-2	1 - 5
Supplier notification	: Aluminum Oxide	1344-28-1	60 - 100
	: Zinc oxide	1314-13-2	1 - 5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

: **Connecticut Carcinogen Reporting:** None of the components are listed.

Connecticut Hazardous Material Survey: None of the components are listed.

Florida substances: None of the components are listed.

Illinois Chemical Safety Act None of the components are listed.

Illinois Toxic Substances Disclosure to Employee Act None of the components are listed.

Louisiana Reporting: None of the components are listed.

Louisiana Spill: None of the components are listed.

Massachusetts Spill: None of the components are listed.

Massachusetts Substances: The following components are listed: Aluminum Oxide; Silicon carbide; Silica, amorphous, fumed; Sulfur; Zinc oxide

Michigan Critical Material: None of the components are listed.

Minnesota Hazardous Substances: None of the components are listed.

New Jersey Hazardous Substances: The following components are listed: Aluminum Oxide; Silicon carbide; Silica, amorphous, fumed; Sulfur; Zinc oxide

New Jersey Spill: None of the components are listed.

New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.

New York Acutely Hazardous Substances: None of the components are listed.

New York Toxic Chemical Release Reporting: None of the components are listed.

Pennsylvania RTK Hazardous Substances: The following components are listed:

15 . Regulatory information

Aluminum Oxide; Silicon carbide; Silica, amorphous, fumed; Sulfur; Zinc oxide
Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65

No products were found.

Canada

WHMIS (Canada)

: This product is a manufactured product under the Canadian WHMIS. Therefore it is EXEMPTED from the regulatory requirements under WHMIS.

Canadian lists

: **CEPA Toxic substances:** None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Aluminum oxide; Zinc
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory

: All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists

: This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16 . Other information

Label requirements

: Resin bond mounted points and grinding wheels are **manufactured Articles** and as such are not considered to be controlled products under O.S.H.A and under W.H.M.I.S. when used in accordance with industry safety standards.

Hazardous Material Information System (U.S.A.)

Health	1
Fire hazard	0
Physical Hazard	0
Personal protection	B

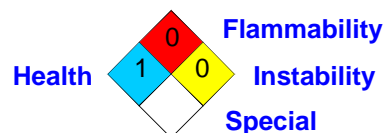
HAZARD RATINGS

4- Extreme
 3- Serious
 2- Moderate
 1- Slight
 0- Minimal

See section 8 for more detailed information on personal protection.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



References

: ANSI Z400.5, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005.

Date of issue

: 09/15/2008

Version

: 1

16 . Other information

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.