# SAFETY DATA SHEET



Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards | SDS Revision: 1.1 | SDS Revision Date: 7/25/2015

## 1. PRODUCT & COMPANY IDENTIFICATION

| | | |
|---|---|---|
| 1.1 | Product Name: | **4-1/2 IN 36 GRIT FLAP DISC** |
| 1.2 | Chemical Name: | Aluminum Oxide-Fiber |
| 1.3 | Synonyms: | P/N 67639 |
| 1.4 | Trade Names: | Warrior |
| 1.5 | Product Uses & Restrictions: | Abrasive |
| 1.6 | Distributor's Name: | Harbor Freight Tools USA, Inc. |
| 1.7 | Distributor's Address: | 26541 Agoura Road, Calabasas, CA 91302 USA |
| 1.8 | Emergency Phone: | **CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN 676687)** |
| 1.9 | Business Phone / Fax: | +1 (805) 388-1000 |

## 2. HAZARDS IDENTIFICATION

2.1 Hazard Identification:

This product is classified as a HAZARDOUS SUBSTANCE, but not as DANGEROUS GOODS according to the classification criteria of NOHSC: 1088 (2004) and ADG Code (Australia).

**WARNING! MAY CAUSE AN ALLERGIC SKIN REACTION. MAY BE HARMFUL IF INHALED.**

Classification: Skin Sens. 1B; Acute Tox. Inh. 5

Hazard Statements (H): H317 – May cause an allergic skin reaction. H333 – May be harmful if inhaled.

Precautionary Statements (P): P261 – Avoid breathing dust. P304 + P312 – IF INHALED: Call a POISON CENTER/doctor if you feel unwell. P280 – Wear protective gloves/eye protection/face protection. P302+P352 – IF ON SKIN: Wash with soap and water. P333+P313 – If skin irritation occurs: Get medical advice/attention. P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).



## 3. COMPOSITION & INGREDIENT INFORMATION

| CHEMICAL NAME(S) | CAS No. | RTECS No. | EINECS No. | % | EXPOSURE LIMITS IN AIR (mg/m³) ACGIH ppm TLV | ACGIH ppm STEL | NOHSC ppm ES-TWA | NOHSC ppm ES-STEL | NOHSC ppm ES-PEAK | OSHA ppm PEL | OSHA ppm STEL | OSHA ppm IDLH | OTHER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM OXIDE | 1344-28-1 | BD1200000 | 215-691-6 | 60-100 | (10) | NA | NF | NF | NF | (10) | NA | NA | |
| | Skin Sens. 1B; Acute Tox. Inh. 5; H317, H333 | | | | | | | | | | | | |
| PAPER, CLOTH, OR FIBER | NA | NA | NA | 10-30 | NA | NA | NF | NF | NF | NA | NA | NA | |
| EPOXY RESIN | NA | NA | NA | 10-30 | NA | NA | NF | NF | NF | NA | NA | NA | |

## 4. FIRST AID MEASURES

4.1 First Aid:

Ingestion: Ingestion unlikely; however, if ingested, do not induce vomiting. Contact the nearest Poison Control Center or local emergency number. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed.

Eyes: If product gets in the eyes, flush with copious amounts of lukewarm water for at least 15 minutes lifting upper and lower lids, occasionally.

Skin: Wash thoroughly with soap and water. In case of contact, immediately flush skin with plenty of water for at least 15 minutes.

Inhalation: Remove victim to fresh air at once. If breathing is difficult, administer oxygen. If breathing stops give artificial respiration. Keep person warm, quiet and get medical attention.

4.2 Effects of Exposure:

Ingestion: If product is swallowed, may cause gastrointestinal disturbance.

Eyes: Exposure to dust may cause eye irritation. Symptoms of overexposure may include redness, itching, irritation and watering.

Skin: May be irritating to skin. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some sensitive individuals.

Inhalation: Coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract.

4.3 Symptoms of Overexposure:

Ingestion: If product is swallowed, may cause gastrointestinal disturbance.

Eyes: Exposure to dust may cause eye irritation. Symptoms of overexposure may include redness, itching, irritation and watering.

Skin: May be irritating to skin. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some sensitive individuals.

Inhalation: Coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract.

## 4. FIRST AID MEASURES – cont'd

| | | |
|---|---|---|
| 4.4 | Acute Health Effects: | Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of dust can cause coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract. |
| 4.5 | Chronic Health Effects: | Possible allergic dermatitis in some sensitive individuals |
| 4.6 | Target Organs: | Eyes, Skin, Respiratory System |
| 4.7 | Medical Conditions Aggravated by Exposure: | Pre-existing dermatitis, other skin conditions. |

| | |
|---|---|
| HEALTH | 1 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARDS | 0 |
| PROTECTIVE EQUIPMENT | B |

| EYES | SKIN | | |
|---|---|---|---|

## 5. FIREFIGHTING MEASURES

| | | |
|---|---|---|
| 5.1 | Fire & Explosion Hazards: | This material can burn but will not readily ignite. However, if involved in a fire, this product may decompose at high temperatures to form toxic gases (e.g., CO, $CO_2$, hydrocarbons). |
| 5.2 | Extinguishing Methods: | $CO_2$, Dry Chemical, Alcohol Foam. Use water spray to cool containers. |
| 5.3 | Firefighting Procedures: | Keep containers cool until well after the fire is out. Fight fires as for surrounding materials. As in any fire, wear MSHA/NIOSH approved self-contained breathing apparatus (pressure-demand) and full protective gear. Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personnel. Fight fire upwind. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. |




## 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| 6.1 | Spills: | Before cleaning any spill individuals involved in cleanup must wear appropriate Personal Protective Equipment. Plastic or rubber gloves, respirator, eye protection and apron may be required for clean-up of large spills. No special precautions are required for intact packaging containing this product. If product is crushed, use respiratory protection equipment. Do not use compressed air to clean up any residue. Use a wet method or vacuums equipped with High Efficiency Particulate (HEPA) filters to clean up any residues from this product. Waste must be placed in dust tight containers or sealed plastic bags for disposal. Label properly. Keep spills and cleaning runoffs out of drains, municipal sewers and open bodies of water. |

## 7. HANDLING & STORAGE INFORMATION

| | | |
|---|---|---|
| 7.1 | Work & Hygiene Practices: | Do not eat, drink or smoke when handling this product. Handle as to avoid puncturing container(s). Wash particulate dust with soap and warm water. |
| 7.2 | Storage & Handling: | Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans) away from heat and direct sunlight. Avoid temperatures above 120 °F. Keep away from incompatible substances. |
| 7.3 | Special Precautions: | Clean all spills promptly. Particulate may present a slipping hazard. |

## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1 Exposure Limits: ppm ($mg/m^3$)

| | ACGIH | | NOHSC | | | OSHA | | | OTHER |
|---|---|---|---|---|---|---|---|---|---|
| CHEMICAL NAME(S) | TLV | STEL | ES-TWA | ES-STEL | ES-PEAK | PEL | STEL | IDLH | |
| ALUMINIUM OXIDE | 15 | NA | NF | NF | NF | 15 | NA | NA | |

| | | |
|---|---|---|
| 8.2 | Ventilation & Engineering Controls: | General mechanical (e.g., fans) or natural ventilation is sufficient when this product is in use. Use local or general exhaust ventilation to effectively remove and prevent buildup of dusts generated from the use of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station). |
| 8.3 | Respiratory Protection: | In instances where dusts are generated when using this product, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia. |
| 8.4 | Eye Protection: | Avoid eye contact. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| 8.5 | Hand Protection: | Heavy-duty work gloves recommended under normal conditions of use to avoid abrasions and reduce risk of exposure to hands. If necessary, refer to U.S. OSHA 29 CFR §1910.138, the appropriate standards of Canada, or the EU member states. |
| 8.6 | Body Protection: | No apron required under normal circumstances; however, it is recommended. Upon completion of work activities using this product), wash any exposed areas thoroughly with soap and water. If necessary, refer to appropriate standards of Canada, the EU member states, or U.S. OSHA. |

## 9. PHYSICAL & CHEMICAL PROPERTIES

| | | |
|---|---|---|
| 9.1 | Appearance: | Solid article |
| 9.2 | Odor: | Odorless |
| 9.3 | Odor Threshold: | NA |
| 9.4 | pH: | NA |
| 9.5 | Melting Point/Freezing Point: | NA |
| 9.6 | Initial Boiling Point/Boiling Range: | NA |
| 9.7 | Flashpoint: | NA |
| 9.8 | Upper/Lower Flammability Limits: | NA |
| 9.9 | Vapor Pressure: | NA |
| 9.10 | Vapor Density: | NA |
| 9.11 | Relative Density: | 3.5 |
| 9.12 | Solubility: | Insoluble |
| 9.13 | Partition Coefficient (log $P_{ow}$): | NA |
| 9.14 | Autoignition Temperature: | NA |
| 9.15 | Decomposition Temperature: | NA |
| 9.16 | Viscosity: | NA |
| 9.17 | Other Information: | NA |

## 10. STABILITY & REACTIVITY

| | | |
|---|---|---|
| 10.1 | Stability: | Stable under normal conditions; unstable with heat or contamination. |
| 10.2 | Hazardous Decomposition Products: | Oxides of carbon (CO, $CO_2$). |
| 10.3 | Hazardous Polymerization: | Will not occur. |
| 10.4 | Conditions to Avoid: | Open flames, sparks, high heat, incompatible substances and direct sunlight. |
| 10.5 | Incompatible Substances: | Avoid extreme heat and ignition sources. Store away from oxidizers. Avoid acids of all types with a pH < 4.0. |

## 11. TOXICOLOGICAL INFORMATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11.1 | Routes of Entry: | Inhalation: | YES | Absorption: | YES | Ingestion: | YES |
| 11.2 | Toxicity Data: | This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientific literature, is available for some of the components of the product, but is not presented in this document. | | | | | |
| 11.3 | Acute Toxicity: | See Section 4.4 | | | | | |
| 11.4 | Chronic Toxicity: | See Section 4.5 | | | | | |
| 11.5 | Suspected Carcinogen: | NA | | | | | |
| 11.6 | Reproductive Toxicity: | This product is not reported to produce reproductive toxicity in humans. | | | | | |
| | Mutagenicity: | This product is not reported to produce mutagenic effects in humans. | | | | | |
| | Embryotoxicity: | This product is not reported to produce embryotoxic effects in humans. | | | | | |
| | Teratogenicity: | This product is not reported to cause teratogenic effects in humans. | | | | | |
| | Reproductive Toxicity: | This product is not reported to cause reproductive effects in humans. | | | | | |
| 11.7 | Irritancy of Product: | The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure. | | | | | |
| 11.8 | Biological Exposure Indices: | NE | | | | | |
| 11.9 | Physician Recommendations: | Treat symptomatically. | | | | | |

## 12. ECOLOGICAL INFORMATION

| | | |
|---|---|---|
| 12.1 | Environmental Stability: | There are no specific data available for this product. |
| 12.2 | Effects on Plants & Animals: | There are no specific data available for this product. |
| 12.3 | Effects on Aquatic Life: | There are no specific data available for this product. |

## 13. DISPOSAL CONSIDERATIONS

| | | |
|---|---|---|
| 13.1 | Waste Disposal: | Dispose of in accordance with federal, state, provincial and local regulations. |
| 13.2 | Special Considerations: | NA |

## 14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

| | | |
|---|---|---|
| 14.1 | 49 CFR (GND): | NOT REGULATED |
| 14.2 | IATA (AIR): | NOT REGULATED |
| 14.3 | IMDG (OCN): | NOT REGULATED |
| 14.4 | TDGR (Canadian GND): | NOT REGULATED |
| 14.5 | ADR/RID (EU): | NOT REGULATED |
| 14.6 | SCT (MEXICO): | NOT REGULATED |
| 14.7 | ADGR (AUS): | NOT REGULATED |

## 15. REGULATORY INFORMATION

| | | |
|---|---|---|
| 15.1 | SARA Reporting Requirements: | This product contains Aluminum Oxide, a substance subject to SARA Title III, Section 313 reporting requirements. |
| 15.2 | SARA Threshold Planning Quantity: | There are no specific Threshold Planning Quantities for the components of this product. |
| 15.3 | TSCA Inventory Status: | The components of this product are listed on the TSCA Inventory or are otherwise exempt. |
| 15.4 | CERCLA Reportable Quantity (RQ): | NA |
| 15.5 | Other Federal Requirements: | None of the ingredients are listed as Hazardous Air Pollutants (HAPs). None of the ingredients are listed as Toxic Pollutants under the Clean Water Act (CWA). None of the ingredients are listed as Priority Pollutants under the Clean Water Act (CWA). This product does not contain any Class 1 or Class 2 ozone depletors. |
| 15.6 | Other Canadian Regulations: | This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List.<br>WHMIS D2B (Other Toxic Effects).  |
| 15.7 | State Regulatory Information: | Alumina (Aluminum Oxide) is found on the following state criteria list: Massachusetts Hazardous Substances List (MA), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), and Washington Permissible Exposures List (WA).<br>No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI). |
| 15.8 | Other Requirements: | The primary components of this product are listed in Annex I of EU Directive 67/548/EEC:<br>Harmful (Xn). Risk Phrases (R): 20-38 – Harmful if inhaled. Irritating to skin. Safety Phrases (S): 2-23-24-62 - Keep away from children. Do not breathe dust. Avoid contact with skin. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label where possible.  |

## 16. OTHER INFORMATION

| | | |
|---|---|---|
| 16.1 | Other Information: | **WARNING! MAY CAUSE AN ALLERGIC SKIN REACTION. MAY BE HARMFUL IF INHALED.** Avoid breathing dust. IF INHALED: Call a POISON CENTER/doctor if you feel unwell. Wear protective gloves/eye protection/face protection. IF ON SKIN – Wash with soap and water. If skin irritation occurs: Get medical advice/attention. **KEEP OUT OF REACH OF CHILDREN.** |
| 16.2 | Terms & Definitions: | See last page of this Safety Data Sheet. |
| 16.3 | Disclaimer: | This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate's & Harbor Freight Tools USA, Inc.'s knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition. |
| 16.4 | Prepared for: | **Harbor Freight Tools USA, Inc.**<br>26541 Agoura Road<br>Calabasas, CA 91302 USA<br>Tel: +1 (805) 388-1000<br>http://www.harborfreight.com |
| 16.5 | Prepared by: | **ShipMate, Inc.**<br>P.O. Box 787<br>Sisters, Oregon 97759-0787 USA<br>Tel: +1 (310) 370-3600<br>Fax: +1 (310) 370-5700<br>http://www.shipmate.com |

## DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

### GENERAL INFORMATION:

| | |
|---|---|
| **CAS No.** | Chemical Abstract Service Number |

### EXPOSURE LIMITS IN AIR:

| | |
|---|---|
| **ACGIH** | American Conference on Governmental Industrial Hygienists |
| **C** | Ceiling Limit |
| **ES** | Exposure Standard (Australia) |
| **IDLH** | Immediately Dangerous to Life and Health |
| **OSHA** | U.S. Occupational Safety and Health Administration |
| **PEL** | Permissible Exposure Limit |
| **STEL** | Short-Term Exposure Limit |
| **TLV** | Threshold Limit Value |
| **TWA** | Time Weighted Average |

### FIRST AID MEASURES:

| | |
|---|---|
| **CPR** | Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body. |

### HMIS-III HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

| | |
|---|---|
| **0** | Minimal Hazard |
| **1** | Slight Hazard |
| **2** | Moderate Hazard |
| **3** | Severe Hazard |
| **4** | Extreme Hazard |

**HEALTH**
**FLAMMABILITY**
**PHYSICAL HAZARDS**
**PERSONAL PROTECTION**

### PERSONAL PROTECTION RATINGS:

| | |
|---|---|
| **A** | |
| **B** | |
| **C** | |
| **D** | |
| **E** | |
| **F** | |
| **G** | |
| **H** | |
| **I** | |
| **J** | |
| **K** | |
| **X** | **Consult your supervisor or SOPs for special handling directions.** |




### OTHER STANDARD ABBREVIATIONS:

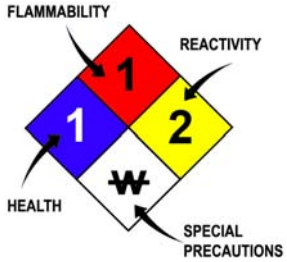
| | |
|---|---|
| **ML** | Maximum Limit |
| **mg/m3** | milligrams per cubic meter |
| **NA** | Not Available |
| **ND** | Not Determined |
| **NE** | Not Established |
| **NF** | Not Found |
| **NR** | No Results |
| **ppm** | parts per million |
| **SCBA** | Self-Contained Breathing Apparatus |

### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

| **FLAMMABILITY LIMITS IN AIR:** | |
|---|---|
| **Autoignition Temperature** | Minimum temperature required to initiate combustion in air with no other source of ignition |
| **LEL** | Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source |
| **UEL** | Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source |

### HAZARD RATINGS:

| | |
|---|---|
| **0** | Minimal Hazard |
| **1** | Slight Hazard |
| **2** | Moderate Hazard |
| **3** | Severe Hazard |
| **4** | Extreme Hazard |
| **ACD** | Acidic |
| **ALK** | Alkaline |
| **COR** | Corrosive |
| **W** | Use No Water |
| **OX** | Oxidizer |
| **TREFOIL** | Radioactive |




### TOXICOLOGICAL INFORMATION:

| | |
|---|---|
| **$LD_{50}$** | Lethal Dose (solids & liquids) which kills 50% of the exposed animals s |
| **$LC_{50}$** | Lethal concentration (gases) which kills 50% of the exposed animal |
| **ppm** | Concentration expressed in parts of material per million parts |
| **$TD_{lo}$** | Lowest dose to cause a symptom |
| **TCLo** | Lowest concentration to cause a symptom |
| **$TD_{lo}$, $LD_{lo}$, & $LD_o$ or TC, $TC_o$, $LC_{lo}$, & $LC_o$** | Lowest dose (or concentration) to cause lethal or toxic effects |
| **IARC** | International Agency for Research on Cancer |
| **NTP** | National Toxicology Program |
| **RTECS** | Registry of Toxic Effects of Chemical Substances |
| **BCF** | Bioconcentration Factor |
| **$TL_m$** | Median threshold limit |
| **log $K_{OW}$ or log $K_{OC}$** | Coefficient of Oil/Water Distribution |

### REGULATORY INFORMATION:

| | |
|---|---|
| **WHMIS** | Canadian Workplace Hazardous Material Information System |
| **DOT** | U.S. Department of Transportation |
| **TC** | Transport Canada |
| **EPA** | U.S. Environmental Protection Agency |
| **DSL** | Canadian Domestic Substance List |
| **NOHSC** | National Occupational Health and Safety Commission (Australia) |
| **NDSL** | Canadian Non-Domestic Substance List |
| **PSL** | Canadian Priority Substances List |
| **TSCA** | U.S. Toxic Substance Control Act |
| **EU** | European Union (European Union Directive 67/548/EEC) |
| **WGK** | Wassergefährdungsklassen (German Water Hazard Class) |
| **HMIS-III** | National Paint & Coatings Association Hazardous Materials Identification System |

### WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:



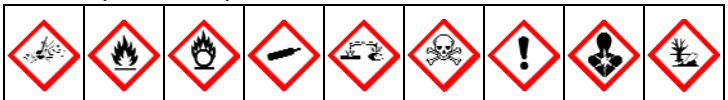
| Class A | Class B | Class C | Class D1 | Class D2 | Class D3 | Class E | Class F |
|---|---|---|---|---|---|---|---|
| Compressed | Flammable | Oxidizing | Toxic | Irritation | Infectious | Corrosive | Reactive |

### EC (67/548/EEC) INFORMATION:



| C | E | F | N | O | T | Xi | Xn |
|---|---|---|---|---|---|---|---|
| Corrosive | Explosive | Flammable | Harmful | Oxidizing | Toxic | Irritant | Harmful |

### CLP/GHS (1272/2008/EC) PICTOGRAMS:



| GHS01 | GHS02 | GHS03 | GHS04 | GHS05 | GHS06 | GHS07 | GHS08 | GHS09 |
|---|---|---|---|---|---|---|---|---|
| Explosive | Flammable | Oxidizer | Pressurized | Corrosive | Toxic | Harmful Irritating | Health Hazard | Environment |