

Material Safety DATA SHEET

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For chemical emergency spill, leak, fire, exposure or accident call (CHEMTREC) 800-424-9300. This MSDS complies with 29 CFR 1919.1200 (The OSHA Hazard Communication Standard).

Section 1: Identification

Product / Chemical Name:

Vitrified Bond Diamond Polishing Disc (WET ONLY)

Product Identification No: N/A

Chemical Family: N/A

Trade Name and Synonyms: N/A

Molecular Weight: N/A

Chemical Name: N/A

Chemical Formula: N/A

Recommended use: Wet polishing tool

Distributor Name:

Alpha Professional Tools®

Address:

103 Bauer Drive, Oakland, NJ 07436

Emergency Tel. No.:

800-648-7229

Section 2: Hazard(s) Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200; Physical Hazards Not classified

Health Hazards

Acute toxicity (oral): Category 3

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2

Respiratory sensitization: Category 1

Skin sensitization: Category 1

Carcinogenicity: Category 2

Specific target organ toxicity single exposure:

Category 1 (Respiratory system, heart, liver),

Category 2 (Systemic toxicity, gastrointestinal)

Category 3 (Respiratory tract irritation)

Specific target organ toxicity repeated or prolonged exposure: Category 1 (Lung, respiratory system)

Environmental Hazards

Hazardous to the aquatic environment (acute) Category 2

Hazardous to the aquatic environment (chronic) Category 2

Other Hazards No information

Signal word Danger

Toxic if swallowed

Causes skin irritation

May cause an allergic skin reaction

Causes serious eye irritation

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause respiratory irritation

Suspected of causing cancer

Causes damage to respiratory system, heart, liver

May causes damage to systemic toxicity, gastrointestinal

Causes damage to lung, respiratory system through prolonged or repeated exposure

Toxic to aquatic life

Toxic to aquatic life with long lasting effects

Precautionary Statement(s)

[Prevention] Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/ vapors/spray. Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

In case of inadequate ventilation, wear respiratory protection.

Collect spillage.

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Section 2: Hazard(s) Identification (Cont')

[Emergency response] If swallowed: Immediately call a poison center/doctor.
 If on skin: Wash with plenty of water.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If exposed or concerned: Get medical advice/attention. Call a poison center/doctor/if you feel unwell.
 Rinse mouth.
 If skin irritation occurs: Get medical advice/attention.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 If experiencing respiratory symptoms: Call a poison center/doctor.

Take off contaminated clothing and wash it before reuse.
 Wash contaminated clothing before reuse.

[Storage] Store in a well-ventilated place. Keep container tightly closed.
 Store locked up.

[Disposal] Dispose of contents/container in accordance with local/regional/national/international regulations.

Description of any hazards not otherwise classified;
 No information

Ingredient with unknown acute toxicity in the mixture
 98 % of the mixture consists of ingredients of unknown acute toxicity.

Section 3: Composition/Information on Ingredients

Chemical name*	CAS No.	Concentration/concentration ranges (wt %)
Aluminum oxide	1344-28-1	25-30
Bisphenol A type epoxy resin	25068-38-6	15-20
Nickel	7440-02-0	5-10
Calcium oxide	1305-78-8	1-2
Boron	7440-42-8	1-3
Cobalt oxide	1307-96-6	1-2
Manganese dioxide	1313-13-9	0.3-0.5

*Grindstone part: This product consists of the adhesive (urethane resin) and base material part (plastic fastener and titanium dioxide) in addition to the grindstone part.

Section 4: First-Aid Measures

Necessary first-aid measures by relevant routes of exposure;

IF INHALED Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If symptoms continue, call a doctor/physician.

IF ON SKIN If the polishing debris and polishing water during polishing is attached to the skin. Rinse with water and soap. If symptoms continue, call a doctor/physician.

IF IN EYES Immediately rinse cautiously with water for 15 - 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms continue, call a doctor/physician.

IF SWALLOWED Rinse mouth. Do not induce vomiting. Get medical advice/attention.

Most important symptoms/effects, acute and delayed;

Toxic if swallowed
 Causes skin irritation
 May cause an allergic skin reaction
 Causes serious eye irritation
 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 May cause respiratory irritation
 Suspected of causing cancer
 Causes damage to respiratory system, heart, liver
 May cause damage to systemic toxicity, gastrointestinal
 Causes damage to lung, respiratory system through prolonged or repeated exposure

Indication of immediate medical attention and special treatment needed, if necessary;

No information

Section 5: Fire-Fighting Measures

Suitable (and unsuitable) extinguishing media;

Small fire: dry chemical, carbon dioxide, water spray, alcohol-resistant foam
Large fire: water spray, water spray, alcohol-resistant foam

Unsuitable extinguishing media

Applying direct water may be dangerous because fire may expand to surroundings.

Specific hazards arising from the chemical;

May ignite with frictional heat, sparks or flame.
In case of fire, irritating or corrosive decomposition products may be generated.

Special protective equipment and precautions for fire-fighters;

Move container to a safe area if it can be done without risk.
Cool containers with flooding quantities of water until well after fire is out.
Wear appropriate self-contained compressed air breathing apparatus and chemical protective clothing (heat resistance) when fire-fighting.
Since there is no effect of extinguishing by fire extinguishing media other than watering, use watering for large-scale fire.

Section 6: Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures;

Wear suitable protective equipment described in "Section 8: Exposure controls/personal protection".
Do not touch or walk through spilled material.
Keep out except responsible personnel.
Ventilate a closed place.
Avoid release into the environment because product may cause local effects.

Methods and materials for containment and cleaning up;

Sweep up scattered materials or vacuum them using a vacuum cleaner so as not to cause dust then collect them into an empty container.
Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).
Prevent to flowing into drains, sewers, basements or closed areas.

Section 7: Handling and Storage

Precautions for safe handling

Protective measures: Install appropriate equipment and wear suitable protective apparatus described in "Section 8: Exposure controls/personal protection".
Use this product with water injection device.
Use dust collector and local exhaust ventilation.
Install the device which can recover polishing water.
While the work is being carried out, keep the surface of the generated dust be covered with a layer of water by injecting water.
Use only outdoors or in a well-ventilated area.
Do not handle near open flame or under excess high temperature conditions.

Advice on general occupational hygiene:

Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures:

After use, it is recommended that to wash away the polishing debris in the water, and store the tool in a dry area.

Incompatible materials:

Oxidizing agents, strong acids and strong bases

Conditions for safe storage:

Keep away from heat/sparks/open flames/hot surfaces.
Avoid sunlight. Store in a dry and cool place.

Packing material:

Use a sealed container.

Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits;

US OSHA PEL

1 mg/m³ (Nickel elemental)

5 mg/m³ (Calcium oxide)

0.1 mg/m³

(Cobalt and compounds, metal dust and fume as Co)

ACGIH TLV-TWA (2014)

1 mg/m³ (Aluminium metal and insoluble compounds)

1.5 mg/m³ (Nickel elemental)

2 mg/m³ (Calcium oxide)

0.02 mg/m³ (Cobalt and compounds as Co)

0.02mg/m³ (Manganese and inorganic compounds as Mn)

(Respirable fraction)

Appropriate engineering controls;

Install closed facilities or local exhaust ventilation systems

Individual protection measures,

such as personal protective equipment;

Respiratory protection: Wear appropriate protective mask or air aspirator as required.

Hand protection: Wear impervious protective gloves.

Eye protection: Wear safety glasses or goggles.

Skin and body protection:

Wear impervious protective clothing.

Section 9: Physical and chemical properties

Appearance (physical state, color, etc.)

Dark blue molded solid

Odor

Odorless

Odor threshold

No information

pH

No information

Melting point/freezing point

No information

Initial boiling point and boiling range

No information

Flash point

No information

Evaporation rate

No information

Flammability (solid, gas)

No information

Upper/lower flammability or explosive limits

No information

Vapor pressure

No information

Vapor density

No information

Relative density

1.5-2.5 (grindstone part)

Solubility (ies)

Water: insoluble

Partition coefficient: n-octanol/water

No information

Auto-ignition temperature

No information

Decomposition temperature

No information

Viscosity

No information

Other information

No information

Section 10: Stability and Reactivity

Reactivity

Stable under normal handling condition.

Chemical stability

Stable under normal handling condition.

Possibility of hazardous reactions

No hazardous reaction expected under normal handling.

Conditions to avoid

Avoid sunlight. Store in a dry and cool place.

Incompatible materials

Oxidizing agents, strong acids and strong bases

Hazardous decomposition products

In case of fire, toxic decomposition products (carbon monoxide, etc.) may be generated.

Section 11: Toxicological Information

Symptoms related to the physical,

chemical and toxicological characteristics;

Information on product:

No information

Information on ingredients:

Aluminum oxide

Acute toxicity (oral): Rat LD₅₀ >5,000mg/kg

Specific target organ toxicity single exposure:

Upper respiratory irritation is reported.

Specific target organ toxicity repeated exposure:

By occupational exposure of aluminum oxide, pulmonary fibrosis was occurred.

Bisphenol A type epoxy resin

Acute toxicity (oral): Rat LD₅₀ = 11,400 mg/kg

Acute toxicity (dermal): Rat LD₅₀ => 1,600 mg/kg

Skin corrosion/irritation: Report on rabbit primary skin irritation tests, the substance does not cause or causes moderate irritation to the skin, though the results of 4-hour application are not available. The substance is considered "irritating."

Serious eye damage/irritation: Report on rabbit eye irritation tests, the substance does not cause or causes moderate irritation to the eyes. The substance is considered "mildly irritating."

Skin sensitization: Report on human cases and tests on human volunteers, the results of guinea pig skin sensitization tests and the classification by the Japanese Society of Occupational Allergy (category: skin sensitizing substance). The substance causes skin sensitization.

Nickel

Acute toxicity (oral): Rats $LD_{50} > 9,000$ mg/kg

Respiratory sensitization: It is rated as a respiratory tract sensitizers (Group 2) by the Recommendations of Occupational Exposure Limits (Japan Society for Occupational Health, 2008). Similarly, it is rated as a respiratory tract sensitizer by Japanese Society of Occupational and Environmental Allergy (2004) and the DFG (MAK/BAT No. 43 (2007)).

Skin sensitization: In human cases, eczema, contact dermatitis and positive reaction to patch tests have been reported. In addition, it is rated as a skin sensitizer (Group 1) by the Recommendations of Occupational Exposure Limits (Japan Society for Occupational Health, 2008). Similarly, it is rated as a skin sensitizer by Japanese Society of Occupational and Environmental Allergy (2004) and the DFG (MAK/BAT No.43 (2007)).

Carcinogenicity: According to previously conducted classifications, the substance was rated as "2B" by the IARC (IARC (1990)), "R" by the NTP (NTP (2005)), and "Carc. Cat. 3; R40" by the EU (EU (2007)).

Specific target organ toxicity single exposure: In inhalation exposure tests (intratracheal single administration) using male rats, pneumocyte damage was induced at 0.5 mg or higher doses. In addition, in humans exposed to the substance through inhalation, alveolar wall damage and edema in alveolar spaces, and marked tubular necrosis in the kidneys were noted.

Specific target organ toxicity repeated exposure: In a 13-week inhalation exposure test using rats (OECD TG 413), pulmonary alveolar proteinosis and pulmonary granulomatous inflammation were noted in female rats and pulmonary mononuclear cell infiltration was detected in male rats at 1 mg/m³ (0.001 mg/L) or higher doses, which fall under Category 1 guidance doses. In addition, in a 21-month inhalation exposure test using rats, pleuritis, pneumonia, blood congestion, and edema were noted at the dose of 15 mg/m³ (0.015 mg/L), which falls under Category 1 guidance doses. Similarly, in a 6-month inhalation exposure test using rabbits, pneumonia was induced at 1 mg/m³ (0.001 mg/L).

Calcium oxide

Acute toxicity (oral): Mouse $LD_{50}=3,059$ mg/kg

Skin corrosion/irritation: It has corrosivity on skin, it is very irritating to damp skin, and it is designated to UN classification class 8-III.

Serious eye damage/irritation: Corrosive to eye, and corrosion of the skin/stimulative.

Specific target organ toxicity single exposure: The inflammation of a respiratory tract and pneumonitis are caused from dust inhalation. If it drinks by mistake, a pulse will be quick and will become weak, breathing is quick and becomes shallow, body temperature falls, it becomes difficult to breathe by cancer of glottis, and will be in a shock states.

Specific target organ toxicity repeated exposure:

Ulcers and perforations of nasal septum is reported.

Boron

Acute toxicity (oral): Rat $LD_{50} = 650$ mg/kg

Cobalt oxide

Acute toxicity (oral): Rat $LD_{50} = 159$ mg/kg

Respiratory sensitization: Reported on the classification by the Japan Society for Occupational Health and the Japanese Society of Occupational Allergy (Respiratory Tract Sensitizing Substance).

Skin sensitization: Reported on the classification by the Japan Society for Occupational Health and the Japanese Society of Occupational Allergy (Skin Sensitizing Substance).

Carcinogenicity: Due to the fact that the substance is classified as Category A3 (as cobalt and inorganic compounds) by ACGIH (2001), Group 2B (cobalt and cobalt compounds) by IARC (1991) and Category 1 (as cobalt and cobalt compounds) by the Japan Society for Occupational Health.

Specific target organ toxicity single exposure: Based on the evidence from animal studies including "hyperplasia of interstitial cells of the heart, myofiber hypertrophy/degeneration, hyperemia of the liver, organic changes of hepatocytes". The effects on the heart were observed.

Manganese dioxide

Acute toxicity (oral): Rat $LD_{50} = 11,710$ mg/kg

Specific target organ toxicity single exposure: "Acute exposure to manganese dust (in particular, MnO₂ and Mn₃O₄) induces pulmonary inflammation which progresses to pulmonary impairment with time. Pulmonary effects increase the infectiousness of bronchitis etc., resulting in manganese pneumonia".

Specific target organ toxicity repeated exposure: The human evidence including "increased incidence of cases diagnosed as pneumonia," "the patient exhibited facial masking, reduced blinking reflex, micrographia, loss of associated arm movements, tremor of the right hand and some cogwheel rigidity of the right extremities," "psychopathological/neurological collapse," "impaired eye-hand coordination/visual reaction," "a greater incidence of low diastolic blood pressure," "impaired visual reaction time, hand-eye coordination, and hand steadiness", and the evidence from animal studies including "sudden movement and torpor, nervousness, severe tremor, flexion-extension movements of upper limbs, yawning, and cyanosis; atrophy of the cerebellar cortex," "peribronchial and perivascular sclerosis and inflammatory changes".

Section 11: Toxicological Information (Cont.)

Delayed and immediate effects and also chronic effects from short- and long-term exposure;

Toxic if swallowed
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause respiratory irritation
Suspected of causing cancer
Causes damage to respiratory system, heart, liver
May causes damage to systemic toxicity, gastrointestinal
Causes damage to lung, respiratory system through prolonged or repeated exposure

Numerical measures of toxicity (such as acute toxicity estimates);

Acute toxicity was estimated based on ingredients of the product by additivity formula.

Whether the chemical is listed in the NTP Report on Carcinogens or has been found to be a potential carcinogen in the IARC Monographs, or by OSHA;

IARC: Listed (Group 2B: Cobalt and cobalt compounds, Nickel, metallic and alloys)

NTP Report: Not listed

OSHA: Not listed

Section 12: Ecological information

Ecotoxicity:

Information on product: No information

Information on ingredients:

Bisphenol A type epoxy resin

Aquatic acute toxicity:

Crustacea (Daphnia magna)48h-EC₅₀ = 1.7 mg/L

Aquatic chronic toxicity:No information

Nickel

Aquatic acute toxicity: Insufficient data available.

Aquatic chronic toxicity:Insufficient data available

Calcium oxide

Aquatic acute toxicity:

Fish (Carp)96-hour LC₅₀=1,070mg/L

Aquatic chronic toxicity:No information

Cobalt oxide

Aquatic acute toxicity: Insufficient data available.

Aquatic chronic toxicity:Insufficient data available.

Manganese dioxide

Aquatic acute toxicity: Insufficient data available.

Aquatic chronic toxicity: Insufficient data available.

Persistence and degradability:

Information on product: No information

Information on ingredients: No information

Bioaccumulative potential:

Information on product: No information

Information on ingredients:

Bisphenol A type epoxy resin

Biodegradability by BOD = 0%

Mobility in soil:

Information on product: No information

Information on ingredients:

Bisphenol A type epoxy resin

BCF≤42

Other adverse effects: No information

Section 13: Disposal considerations

Waste treatment methods

Dispose of waste in accordance with applicable local, regional and international regulations and standards.
When disposing, consult to a certificated waste trader or local offices if they deal with the waste.

Used container should be recycled after cleaning or dispose of in compliance with related laws and local regulations.
Contents should be removed completely when dispose of empty containers.

Section 14: Transport Information (non-mandatory)

UN number Not applicable

UN proper shipping name Not applicable

Transport hazard class(es) Not applicable

Packing group Not applicable

Environmental hazards Not applicable

Transport in bulk according to Annex II of MARPOL

73/78 and IBC code Not applicable

Special precautions for user

When transporting, avoid direct sunlight. Confirm no leakage to containers. When loading, prevent containers from falling, dropping off or damaging. Take preventive measures of collapse.

Section 15: Regulatory information

OSHA: Hazardous chemical

TSCA inventory: All ingredients in this product are listed on the TSCA Inventory.

TSCA SNUR: Not applicable

SARA Title III: Section 302 (Extremely Hazardous Substances): Not applicable

Section 304 (Hazardous Substances): Not applicable

Section 313 (TRI Chemicals): Aluminum oxide (fibrous forms), Nickel

Clean Air Act: This product does not contain any substances regulated as hazardous air pollutants under Section 112 of the Clean Air Act.

Clean Water Act: Listed Listed (Nickel)

Section 16: Other Information

Update history:

Date of issue: 31th May, 2015

References:

Information of Sanwa Kenma, Ltd.

NITE GHS classification results (2015).

ACGIH, American Conference of Governmental Industrial Hygienists (2014) TLVs and BEIs.

[Disclaimer]

This SDS has been prepared based on the best available information however, it may not be sufficient in some cases. It is user's responsibility to modify or update any contents in this SDS regarding information on hazardous properties and/or instruction for safe handling of the product when they become available. Precautionary measures in this SDS are only applicable for normal handling conditions and it is necessary to take appropriate additional measures to ensure safe handling which depend on your specific use conditions or situations.