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Revision Number 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name Superabrasive Resin or Superabrasive Plated Tool

Other means of identification

Product Code(s) 085

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Abrasive tool used in honing.

Uses advised against No information available

Supplier's details

Supplier Address

Sunnen Products
7910 Manchester Road
Saint Louis, MO 63143
314-781-2100
Website: www.sunnen.com

Emergency telephone number

Emergency Telephone Number 1 (314) 781-2100 8 a. m. - 3 p.m. C.S.T (US)
Email: SDS@sunnen.com

2. HAZARDS IDENTIFICATION

Classification

As shipped item is not classified. Downstream use of this product, results in hazardous elements being emitted under certain processing conditions such as but not limited to: abrading, cutting, welding, sanding, burning, milling or grinding. The classifications given below pertains to when used during these processes.

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1A
Reproductive Toxicity	Category 1B
Specific Target Organ Toxicity (Repeated Exposure)	Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word Danger

Hazard Statements

- Causes skin irritation
- Causes serious eye irritation
- May cause an allergic skin reaction
- Suspected of causing genetic defects
- May cause cancer
- May damage fertility or the unborn child
- Causes damage to organs through prolonged or repeated exposure

**Appearance** Varies**Physical State** Solid (compressed).**Odor** None

Precautionary Statements

Prevention

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Wash face, hands and any exposed skin thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.

General Advice

- If exposed or concerned: Get medical attention/advice

Eyes

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.

Skin

- IF ON SKIN: Wash with plenty of soap and water.
- Take off contaminated clothing and wash before reuse.
- If skin irritation or rash occurs: Get medical advice/attention.

Storage

- Store locked up.

Disposal

- Dispose of contents/container to an approved waste disposal plant.

Hazard Not Otherwise Classified (HNOC)

Not applicable

Other information

Very toxic to aquatic life Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Aluminum oxide	1344-28-1	8-51	*

Nickel phosphide (Ni ₂ P)	12035-64-2	0-33	*
Nickel	7440-02-0	0-29	*
Silica, cristobalite	14464-46-1	0-11	*
Boron oxide	1303-86-2	0-7	*
Titanium	7440-32-6	0-6	*
Phosphorus	7723-14-0	0-4	*
1,3,5,7-Tetraazatricyclo[3.3.1.1 ^{3,7}]decane	100-97-0	0-4	*
Magnesium oxide fume	1309-48-4	0-3	*
Phenol	108-95-2	0-2	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of necessary first-aid measures

General Advice As a solid object the honing stone presents no hazard at normal temperatures. However if modified for use by abrading, grinding, cutting or processing in another fashion that creates potentially hazardous dust or fumes can result in exposure by inhalation, swallowing or come in contact with skin or eyes. The information below is for these instances.

Eye Contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists.

Skin Contact Wash skin with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Remove and wash contaminated clothing before re-use.

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

Ingestion IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Irritation Rashes Itching

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

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media None

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid dust formation. Avoid inhalation of dust. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental Precautions

Environmental Precautions Avoid release to the environment. Collect spillage. See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up

Methods for Containment None required.

Methods for Cleaning Up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE**Precautions for safe handling**

Handling None required under normal usage. If exposed to dust: Avoid dust formation. Ensure adequate ventilation. Do not breathe dusts or fumes. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage Store in accordance with the particular national regulations

Incompatible Products Acids, Bases, Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Control parameters**

Exposure Guidelines Occupational exposure limits apply to some of the components resulting from abrading, cutting or grinding producing dust or fumes.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Aluminum oxide 1344-28-1	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	-
Silicon carbide 409-21-2	TWA: 10 mg/m ³ nonfibrous, inhalable fraction, particulate matter containing no asbestos and <1% crystalline silica TWA: 3 mg/m ³ nonfibrous, respirable fraction, particulate matter containing no asbestos and <1% crystalline silica TWA: 0.1 fiber/cm ³ respirable fibers, including whiskers, length >5 µm, aspect ratio ≥3:1 as determined by the membrane filter method at 400-450X magnification (4-mm objective), using phase-contrast illumination.	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Nickel phosphide (Ni ₂ P) 12035-64-2	TWA: 0.2 mg/m ³ Ni inhalable fraction	TWA: 1 mg/m ³ Ni (vacated) TWA: 1 mg/m ³ Ni	IDLH: 10 mg/m ³ Ni TWA: 0.015 mg/m ³ except Nickel carbonyl Ni
Nickel 7440-02-0	TWA: 1.5 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 10 mg/m ³ TWA: 0.015 mg/m ³

Silica, cristobalite 14464-46-1	TWA: 0.025 mg/m ³ respirable fraction	(vacated) TWA: 0.05 mg/m ³ respirable dust : (1/2)(30)/(%SiO ₂ + 2) mg/m ³ TWA total dust : (1/2)(250)/(%SiO ₂ + 5) mppcf TWA respirable fraction : (1/2)(10)/(%SiO ₂ + 2) mg/m ³ TWA respirable fraction	IDLH: 25 mg/m ³ respirable dust TWA: 0.05 mg/m ³ respirable dust
Boron oxide 1303-86-2	TWA: 10 mg/m ³	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ total dust	IDLH: 2000 mg/m ³ TWA: 10 mg/m ³
Phosphorus 7723-14-0	-	TWA: 0.1 mg/m ³ (vacated) TWA: 0.1 mg/m ³	IDLH: 5 mg/m ³ TWA: 0.1 mg/m ³
Magnesium oxide fume 1309-48-4	TWA: 10 mg/m ³ inhalable fraction	TWA: 15 mg/m ³ fume, total particulate (vacated) TWA: 10 mg/m ³ total particulate	IDLH: 750 mg/m ³ fume
Phenol 108-95-2	TWA: 5 ppm S*	TWA: 5 ppm TWA: 19 mg/m ³ (vacated) TWA: 5 ppm (vacated) TWA: 19 mg/m ³ (vacated) S* S*	IDLH: 250 ppm Ceiling: 15.6 ppm 15 min Ceiling: 60 mg/m ³ 15 min TWA: 5 ppm TWA: 19 mg/m ³
Quartz 14808-60-7	TWA: 0.025 mg/m ³ respirable fraction	30/((%SiO ₂ +2) mg/m ³ TWA, Total Dust; 250/((%SiO ₂ +5) mppcf TWA, respirable fraction; 10/((%SiO ₂ +2) mg/m ³ TWA, respirable TWA: 0.1 mg/m ³ (vacated)	IDLH: 50 mg/m ³ respirable dust TWA: 0.05 mg/m ³ respirable dust

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Safety glasses with side-shields.

Skin and Body Protection

No protective equipment is needed under normal use conditions. Skin protection is not normally required for short exposures when honing with oil. Gloves and protective clothing should be worn if any operation generates dust.

Respiratory Protection

Not normally required when honing with oil. In the case of dust or aerosol formation use respirator with an approved filter.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State
Odor

Solid (compressed).
None.

Appearance
Odor Threshold

Varies.
No information available.

Property

Values

Remarks/ - Method

pH
Melting Point/Range
Boiling Point/Boiling Range
Flash Point
Evaporation rate
Flammability (solid, gas)
Flammability Limits in Air
upper flammability limit
lower flammability limit

Not applicable
Not applicable
Not applicable
Not applicable.
No data available
No data available
No data available
No data available
No data available

None known
None known
None known
None known
None known
None known

Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Gravity	Not applicable	None known
Water Solubility	Insoluble in water.	None known
Solubility in other solvents	Insoluble	None known
Partition coefficient: n-octanol/water	Not applicable	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	Solid	None known
Flammable Properties	Not flammable	
Explosive Properties	No data available	
Oxidizing Properties	No data available	

Other information

VOC Content (%)	Not applicable.
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10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Acids, Bases, Strong oxidizing agents.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
Inhalation	May cause irritation of respiratory tract. Inhalation of respirable particles of dust can cause lung fibrosis. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count.
Eye Contact	Causes serious eye irritation
Skin Contact	Causes skin irritation. May cause sensitization by skin contact.
Ingestion	Not an expected route of exposure.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Aluminum oxide	> 5000 mg/kg (Rat)	-	-
Nickel	> 9000 mg/kg (Rat)	-	-
Boron oxide	= 3150 mg/kg (Rat)	-	-
Phosphorus	= 3.03 mg/kg (Rat)	= 100 mg/kg (Rat)	= 4.3 mg/L (Rat) 1 h
1,3,5,7-Tetraazatricyclo[3.3.1.1.3,7]decane	= 9200 mg/kg (Rat)	-	-
Phenol	= 317 mg/kg (Rat)	= 525 mg/kg (Rat) = 630 mg/kg (Rabbit)	= 316 mg/m ³ (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Irritation Allergic skin reactions or irritation.

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

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nickel phosphide (Ni ₂ P)	A1	Group 1	Known	X
Nickel		Group 2B	Reasonably Anticipated	X
Silica, cristobalite	A2	Group 1		X
Phenol		Group 3		

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to its Carcinogenicity to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Reproductive Toxicity

Some lithium ions and compounds have been shown to cause reproductive effects in animals. There is insufficient data to show if the lithium compounds present in this product will cause similar effects.

STOT - single exposure

May cause respiratory irritation

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure if inhaled

Aspiration Hazard

No information available.

Numerical measures of toxicity - Product

The following values are calculated based on chapter 3.1 of the GHS document: Not applicable

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Product in its current form (solid) is not likely to be a hazard to the environment. Toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
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Nickel 7440-02-0	EC50 72 h: = 0.18 mg/L (Pseudokirchneriella subcapitata) EC50 96 h: 0.174 - 0.311 mg/L static (Pseudokirchneriella subcapitata)	LC50 96 h: > 100 mg/L (Brachydanio rerio) LC50 96 h: = 1.3 mg/L semi-static (Cyprinus carpio) LC50 96 h: = 10.4 mg/L static (Cyprinus carpio)	-	EC50 48 h: > 100 mg/L (Daphnia magna) EC50 48 h: = 1 mg/L Static (Daphnia magna)
Boron oxide 1303-86-2		LC50 72 h: = 0.57 g/L flow-through (Carassius auratus)		EC50 48 h: 370 - 490 mg/L (Daphnia magna)
Phosphorus 7723-14-0	-	LC50 96 h: 0.001-0.004 mg/L static (Lepomis macrochirus) LC50 96 h: 0.0017-0.0035 mg/L flow-through (Lepomis macrochirus) LC50 96 h: 0.011-0.028 mg/L static (Pimephales promelas) LC50 96 h: 0.015-0.032 mg/L static (Oncorhynchus mykiss) LC50 96 h: > 100 mg/L static (Brachydanio rerio)	-	EC50 48 h: 0.025 - 0.037 mg/L Static (Daphnia magna) EC50 48 h: = 0.03 mg/L (Daphnia magna)
1,3,5,7-Tetraazatricyclo[3.3.1.1 ^{3,5}]decane 100-97-0		LC50 96 h: 44600-55600 mg/L flow-through (Pimephales promelas)		EC50 48 h: 29868 - 43390 mg/L (Daphnia magna)
Phenol 108-95-2	EC50 96 h: = 46.42 mg/L (Pseudokirchneriella subcapitata) EC50 96 h: 0.0188 - 0.1044 mg/L static (Pseudokirchneriella subcapitata) EC50 72 h: 187 - 279 mg/L static (Desmodesmus subspicatus)	LC50 96 h: 11.9 - 50.5 mg/L flow-through (Pimephales promelas) LC50 96 h: 20.5 - 25.6 mg/L static (Pimephales promelas) LC50 96 h: = 32 mg/L (Pimephales promelas) LC50 96 h: 5.449 - 6.789 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: 7.5 - 14 mg/L static (Oncorhynchus mykiss) LC50 96 h: 4.23 - 7.49 mg/L semi-static (Oncorhynchus mykiss) LC50 96 h: 5.0 - 12.0 mg/L (Oncorhynchus mykiss) LC50 96 h: = 13.5 mg/L static (Lepomis macrochirus) LC50 96 h: 11.9 - 25.3 mg/L flow-through (Lepomis macrochirus) LC50 96 h: = 11.5 mg/L semi-static (Lepomis macrochirus) LC50 96 h: 34.09 - 47.64 mg/L static (Poecilia reticulata) LC50 96 h: = 31 mg/L semi-static (Poecilia reticulata) LC50 96 h: = 27.8 mg/L (Brachydanio rerio) LC50 96 h: = 0.00175 mg/L semi-static (Cyprinus carpio) LC50 96 h: 33.9 - 43.3 mg/L flow-through (Oryzias latipes) LC50 96 h: 23.4 - 36.6 mg/L static (Oryzias latipes)	EC50 21 - 36 mg/L 30 min EC50 = 23.28 mg/L 5 min EC50 = 25.61 mg/L 15 min EC50 = 28.8 mg/L 5 min EC50 = 31.6 mg/L 15 min	EC50 48 h: 4.24 - 10.7 mg/L Static (Daphnia magna) EC50 48 h: 10.2 - 15.5 mg/L (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation No information available.

Chemical Name	Log Pow
Phenol	1.47

Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Where possible recycling is preferred to disposal or incineration.

Contaminated Packaging

Do not re-use empty containers.

14. TRANSPORT INFORMATION**DOT**

Not regulated

TDG

Not regulated

MEX

Not regulated

15. REGULATORY INFORMATION**International Inventories**

TSCA

Complies

DSL

Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Nickel phosphide (Ni ₂ P)	12035-64-2	33	0.1
Nickel	7440-02-0	29	0.1
Phosphorus	7723-14-0	4	1.0
Phenol	108-95-2	2	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard

Yes

Chronic Health Hazard

Yes

Fire Hazard

No

Sudden Release of Pressure Hazard

No

Reactive Hazard

No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nickel phosphide (Ni ₂ P)		X		
Nickel		X	X	
Phosphorus	1 lb			X
Phenol	1000 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Nickel	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Phosphorus	1 lb	1 lb	RQ 1 lb final RQ RQ 0.454 kg final RQ
Phenol	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Nickel phosphide (Ni ₂ P)	12035-64-2	Carcinogen
Nickel	7440-02-0	Carcinogen
Quartz	14808-60-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Aluminum oxide	X	X	X		X
Silicon carbide	X	X	X		X
Nickel phosphide (Ni ₂ P)			X	X	X
Nickel	X	X	X	X	X
Silica, cristobalite	X	X	X		
Boron oxide	X	X	X		X
Titanium	X				
Phosphorus	X	X	X	X	X
1,3,5,7-Tetraazatricyclo[3.3.1.1 ^{3,5} .1 ^{2,4} .1 ^{2,6}]decane	X				
Magnesium oxide fume	X	X	X		X
Phenol	X	X	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	Health Hazard 1	Flammability 0	Instability 0	Physical and Chemical Hazards -
HMIS	Health Hazard 2*	Flammability 0	Physical Hazard 0	Personal Protection X

*Indicates a chronic health hazard.

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Revision Note

N.A.

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet