

Issuing Date 27-Oct-2014

Revision Date Jan-24-2023

Revision Number 2

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

GHS product identifier

Product Name Sunnen Metalbond Honing Stone

Other means of identification

Product Code(s) 006

Synonyms Part number with NM or DM. Exm. K20-DM45

Recommended use of the chemical and restrictions on use

Recommended Use Honing process

Uses advised against No information available

Supplier's details

Supplier Address

Sunnen Products
7910 Manchester
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

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.

Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1A
Reproductive Toxicity	Category 2
Specific Target Organ Toxicity (Repeated Exposure)	Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word	Danger
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Hazard Statements

- Harmful if inhaled
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- May cause an allergic skin reaction
- Suspected of causing genetic defects
- May cause cancer
- Suspected of damaging fertility or the unborn child
- Causes damage to organs through prolonged or repeated exposure

**Appearance** Brass**Physical State** Solid.**Odor** None**Precautionary Statements****Prevention**

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

General Advice

- Get medical attention/advice if you feel unwell

Skin

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

Inhalation

- IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing
- If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

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**Synonyms**

PRODUCT IDENTIFIER SDS-006

Chemical Name	CAS-No	Weight %	Trade secret
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Cobalt	7440-48-4	0-94	*
Copper (metallic)	7440-50-8	0-82	*
Nickel	7440-02-0	0-29	*
Tin	7440-31-5	0-20	*
Aluminum oxide	1344-28-1	0-18	*
Silver	7440-22-4	0-11	*
Silicon carbide	409-21-2	0-7	*
Phosphorus	7723-14-0	0-4	*
Cadmium and compounds (as Cd)	7440-43-9	<1	*

*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	If exposed or concerned: Get medical attention/advice
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. 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 Call a POISON CENTER or doctor/ physician
Ingestion	Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects May cause allergy or asthma symptoms or breathing difficulties if inhaled. Itching Rashes

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 local 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
Cobalt 7440-48-4	TWA: 0.02 mg/m ³	TWA: 0.1 mg/m ³ dust and fume (vacated) TWA: 0.05 mg/m ³ dust and fume	IDLH: 20 mg/m ³ dust and fume TWA: 0.05 mg/m ³ dust and fume
Copper (metallic) 7440-50-8	TWA: 0.2 mg/m ³ fume	TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ dust and mist (vacated) TWA: 0.1 mg/m ³ Cu dust, fume, mist	IDLH: 100 mg/m ³ dust, fume and mist TWA: 1 mg/m ³ dust and mist TWA: 0.1 mg/m ³ fume
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
Tin 7440-31-5	TWA: 2 mg/m ³	TWA: 2 mg/m ³ Sn except oxides (vacated) TWA: 2 mg/m ³	IDLH: 100 mg/m ³ TWA: 2 mg/m ³
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	-
Silver 7440-22-4	TWA: 0.1 mg/m ³ dust and fume	TWA: 0.01 mg/m ³ (vacated) TWA: 0.01 mg/m ³	IDLH: 10 mg/m ³ dust TWA: 0.01 mg/m ³ dust

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
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
Cadmium and compounds (as Cd) 7440-43-9	TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³ respirable fraction	TWA: 0.1 mg/m ³ fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect TWA: 0.2 mg/m ³ dust applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect TWA: 5 µg/m ³ Action Level: 2.5 µg/m ³ (vacated) STEL: 0.3 ppm fume Ceiling: 0.3 mg/m ³ fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect Ceiling: 0.6 mg/m ³ dust applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect	IDLH: 9 mg/m ³ dust

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	Solid	Appearance	Brass
Odor	None	Odor Threshold	No information available
Property	Values	Remarks/ - Method	
pH	Not applicable	None known	
Melting Point/Range	> 593 °C	None known	
Boiling Point/Boiling Range	Not applicable	None known	
Flash Point	Not applicable.	None known	
Evaporation rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	

Flammability Limits in Air

upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Gravity	7.8	None known
Water Solubility	Not applicable	None known
Solubility in other solvents	Not applicable	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	Solid Metal	None known

Flammable Properties Not flammable

Explosive Properties No data available

Oxidizing Properties No data available

Other information

VOC Content (%) Not applicable.

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****Inhalation**

Product does not present an acute toxicity hazard based on known or supplied information. 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

Dust contact with the eyes can lead to mechanical irritation.

Skin Contact

Contact with dust can cause mechanical irritation or drying of the skin.

Ingestion

Not an expected route of exposure.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cobalt	= 6170 mg/kg (Rat)	-	> 10 mg/L (Rat) 1 h
Nickel	> 9000 mg/kg (Rat)	-	-
Aluminum oxide	> 5000 mg/kg (Rat)	-	-
Silver	> 2000 mg/kg (Rat)	-	-
Phosphorus	= 3.03 mg/kg (Rat)	= 100 mg/kg (Rat)	= 4.3 mg/L (Rat) 1 h
Cadmium and compounds (as Cd)	= 2330 mg/kg (Rat)	-	= 8 mg/L (Rabbit) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Allergic skin reactions or irritation. rash Difficulty in breathing.

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
Cobalt	A3	Group 2B	Reasonably Anticipated	X
Nickel		Group 2B	Reasonably Anticipated	X
Silicon carbide	A2			
Cadmium and compounds (as Cd)	A2	Group 1	Known	X

ACGIH: (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2B - Possibly Carcinogenic 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 Contains a known or suspected reproductive toxin.
STOT - single exposure No information available.
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:

LD50 Oral 8598 mg/kg; Acute toxicity estimate

LD50 Dermal 110000 mg/kg; Acute toxicity estimate

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Product in its current form (solid) is not likely to be a hazard to the environment. Very 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)
Cobalt 7440-48-4	-	LC50 96 h: > 100 mg/L static (Brachydanio rerio)	-	-

Copper (metallic) 7440-50-8	EC50 96 h: 0.031 - 0.054 mg/L static (Pseudokirchneriella subcapitata) EC50 72 h: 0.0426 - 0.0535 mg/L static (Pseudokirchneriella subcapitata)	LC50 96 h: 0.0068 - 0.0156 mg/L (Pimephales promelas) LC50 96 h: < 0.3 mg/L static (Pimephales promelas) LC50 96 h: = 0.052 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: = 0.112 mg/L flow-through (Poecilia reticulata) LC50 96 h: = 0.2 mg/L flow-through (Pimephales promelas) LC50 96 h: = 0.3 mg/L semi-static (Cyprinus carpio) LC50 96 h: = 0.8 mg/L static (Cyprinus carpio) LC50 96 h: = 1.25 mg/L static (Lepomis macrochirus)		EC50 48 h: = 0.03 mg/L Static (Daphnia magna)
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)
Aluminum oxide 1344-28-1		LC50 96 h: > 100 mg/L semistatic (Salmo trutta)		LC50 48 h: > 100 mg/L (daphnia magna)
Silver 7440-22-4		LC50 96 h: 0.00155-0.00293 mg/L static (Pimephales promelas) LC50 96 h: = 0.0062 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: = 0.064 mg/L static (Lepomis macrochirus)		EC50 48 h: = 0.00024 mg/L Static (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)
Cadmium and compounds (as Cd) 7440-43-9		LC50 96 h: 0.0004-0.003 mg/L (Pimephales promelas) LC50 96 h: = 0.002 mg/L (Cyprinus carpio) LC50 96 h: = 0.003 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: = 0.006 mg/L static (Oncorhynchus mykiss) LC50 96 h: = 0.016 mg/L (Oryzias latipes) LC50 96 h: = 0.24 mg/L static (Cyprinus carpio) LC50 96 h: = 21.1 mg/L flow-through (Lepomis macrochirus) LC50 96 h: = 4.26 mg/L semi-static (Cyprinus carpio)		EC50 48 h: = 0.0244 mg/L Static (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation No information available.

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.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Nickel - 7440-02-0	(hazardous constituent - no waste number)	Included in waste streams: F006, F039		
Silver - 7440-22-4		Included in waste stream: F039	5.0 mg/L regulatory level	
Cadmium and compounds (as Cd) - 7440-43-9		Included in waste streams: F006, F039, K061, K069, K100	1.0 mg/L regulatory level	

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 %
Cobalt	7440-48-4	44	0.1
Copper (metallic)	7440-50-8	38	1.0
Silver	7440-22-4	5	1.0
Cadmium and compounds (as Cd)	7440-43-9	1	0.1

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
Copper (metallic)		X	X	
Nickel		X	X	
Silver		X	X	
Phosphorus	1 lb			X
Cadmium and compounds (as Cd)		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
Copper (metallic)	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Nickel	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Silver	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Phosphorus	1 lb	1 lb	RQ 1 lb final RQ RQ 0.454 kg final RQ
Cadmium and compounds (as Cd)	10 lb		RQ 10 lb final RQ RQ 4.54 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
Cobalt	7440-48-4	Carcinogen
Nickel	7440-02-0	Carcinogen
Cadmium and compounds (as Cd)	7440-43-9	Carcinogen Developmental Male Reproductive

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Cobalt	X	X	X	X	X
Copper (metallic)	X	X	X	X	X
Tin	X	X	X		X
Aluminum oxide	X	X	X		X
Silver	X	X	X		X
Silicon carbide	X	X	X		X
Cadmium and compounds (as Cd)	X	X	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

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

**Indicates a chronic health hazard.*

Prepared By	Sunnen Products Company 7910 Manchester Road Saint Louis, MO 63146 1-314-781-2100
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Revision Note	Review

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