



MATERIAL SAFETY DATA SHEET

SECTION 1 IDENTITY

Not D.O.T. Hazardous
per 49CFR172

NAME OF PRODUCT: MB-40-5, MB-40-55 or MB-40-330 HONING OIL

MANUFACTURER'S NAME AND ADDRESS:

SUNNEN PRODUCTS COMPANY
7910 MANCHESTER
ST. LOUIS, MO 63143

CONTACT:

CHUCK KORN

DATE:

April 11, 2006

EMERGENCY TELEPHONE NUMBER:

314-781-2105

SECTION 2 INGREDIENTS/IDENTITY (PER 29 CFR 1910.1200(g))

CHEMICAL NAME OF COMPONENTS	CAS NO.	Wt.%	OSHA Z1A 8 HR TWA	OSHA Z1A STEL	OSHA Z1A SKIN mg./cu.m.	CARCINOGENIC
SULFUR ADDITIVE	68990-81-8	20-30	NONE	NONE	NONE	N
CHLORINE ADDITIVE	63449-39-8	5-10	NONE	NONE	NONE	N
PHOSPHORUS ADDITIVE	68514-88-5	1-5	NONE	NONE	NONE	N
ANIMAL FATTY OIL	8016-28-2	20-30	NONE	NONE	NONE	N
PETROLEUM DISTILLATE	64742-53-6	30-40	5(mist)	NONE	NONE	N
TOLYLTRIAZOLE	29385-43-1	<1	NONE	NONE	NONE	N

FOR FURTHER SAFETY AND HEALTH INFORMATION REGARDING THE COMPOSITION OF THIS MATERIAL CONTACT SUNNEN PRODUCTS.

These mixture ingredients are cited on the following lists:

Name	CAS	Citations
Chlorine Additive/Elemental Chlorine	63449-39-8	24
Animal Fatty Oil	8016-28-2	5,6,10,21,22
Mineral Oil	64742-53-6	2,4,5,6,9,10,11,12,13,14,16,17

1=V)KJ[V]UJ 2=OSHA 3=NTP 4=ACGIH 5=NFP49 6=NFP4325M 7=DOT HMT 49CFR172.101 8=EPA SARA III 9=RTECS 10=MA RTK 11=AK RTK 12=CA RTK 13=FL RTK 14=IL RTK 15=ME RTK 16=MN RTK 17=NH RTK 18=NJ RTK 19=Cincinnati, OH RTK 20=Norwood, OH RTK 21=PA RTK 22=RI RTK 23=WV RTK

SECTION 3 PHYSICAL & CHEMICAL CHARACTERISTICS

SPECIFIC GRAVITY (WATER=1)	1.09 approx.
APPEARANCE AND ODOR	Dark brown liquid with odor of sulfur.
PERCENT VOLATILE BY WEIGHT	<<1%
REACTIVITY IN WATER	No hazardous reactions.
BOILING POINT	Decomposes upon boiling.
VAPOR DENSITY (Air=1)	Heavier than air.
VAPOR PRESSURE (mm Hg)	<.1mm Hg @ 68 F (20 C)
EVAPORATION RATE	Negligible
SOLUBILITY IN WATER	Negligible.

SECTION 4 SPECIAL PRECAUTIONS

HANDLING AND STORAGE: Store away from heat or flame. Product degradation may occur at temperatures over 54°C (130°F). Maximum storage temperature 54°C (130°F). Read and follow container warnings. Refer to MSDS Section 7 & 8.

SECTION 5 CORROSIVITY AND REACTIVITY DATA

STABILITY: Material is stable under normal conditions of transport and storage. **POLYMERIZATION:** Hazardous polymerization does not occur. **INCOMPATIBILITY (MATERIALS TO AVOID):** Alkali metals and strong oxidation agents such as hydrogen peroxide, bromine and chromic acid. Pollution by oxidation agents may cause spontaneous combustion and/or rancidity. **CONDITIONS TO BE AVOIDED:** Oxidizing conditions. **HAZARDOUS DECOMPOSITION PRODUCTS:** Combustion of material will produce oxides of Sulfur, Chlorine and Carbon. Hydrochloric acid vapors may be emitted on thermal decomposition.

SECTION 6 HEALTH, FIRST AID AND MEDICAL DATA

ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE. PRIMARY ROUTE(S) OF ENTRY ARE: INHALATION AND SKIN ABSORPTION. Abbreviations used in the following section: SKIN=Skin absorption. EYE=Eye contact. INHAL=Inhalation INGEST=Ingestion. THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA.

CHLORINATED PARAFFIN: A class of compounds that are similarly manufactured but vary in molecular structure by carbon chain length and degree of chlorination. This particular product has not been shown to have adverse health effects. Two others, C12 / 58% chlorine and C24 / 43% chlorine have been shown by the National Toxicology Program bioassay studies to cause tumors in laboratory animals which were force fed these products mixed with corn oil at high dose levels for long periods of time. These tests represent extreme exposure conditions which are quite unlikely to be encountered by humans during handling of chlorinated paraffins. **ACUTE: SKIN:** Concentrate may cause skin irritation. **EYE:** Concentrate may cause eye irritation. **INHAL:** Not established. Observe OSHA limits of 5 mg/cu m. for oil mists. Symptoms of overexposure to oil mist include coughing, sore throat, headache, chest pain and difficult breathing. Predisposing factors: Individuals with pre-existing respiratory impairments (such as emphysema) can display increased sensitivity to oil mists or vapors. **INGEST:** Slightly toxic (estimated) based on testing of similar products and/or the components. **CHRONIC: SKIN:** Prolonged repeated skin contact can cause skin irritation or oil acne: Inflammation and blackheads due to mechanical blockage of the pores. Prolonged or repeated exposure may aggravate existing dermatitis. **EYE:** None known. **INGEST:** None known. **INHAL:** None known.

SULFUR POLYMD: **ACUTE SKIN:** Concentrate may cause skin irritation. **EYE:** Concentrate may cause eye irritation. **INHAL:** Observe OSHA limits of 5 mg/cu m. for oil mists. Symptoms of overexposure to oil mist include coughing, sore throat, headache, chest pain and difficult breathing. Predisposing factors: Individuals with pre-existing respiratory impairments (such as emphysema) can display increased sensitivity to oil mists or vapors. **INGEST:** LD50 not established. Do not ingest. **CHRONIC: SKIN:** Prolonged repeated skin contact can cause skin irritation or oil acne: Inflammation and blackheads due to mechanical blockage of the pores. Prolonged or repeated exposure may aggravate existing dermatitis. **EYE:** None known. **INGEST:** None known. **INHAL:** None known.

FATTY OIL: **ACUTE: SKIN:** Prolonged repeated skin contact can cause skin irritation or oil acne, inflammation and blackheads due to mechanical blockage of the pores. Predisposing factors: Usually individuals with sensitive skin or large amounts of body hair. Material is not sterile and may infect open cuts or sores. **EYE:** May irritate the eyes. **INGEST:** Loose bowel movements. Acute oral toxicity: LD 50>5 gm./kg. (rats). **INHAL:** Not established. Suggest ACGIH limits for vegetable oil mists of 5 mg/cu m. be observed. Symptoms of overexposure include coughing, sore throat, headache, chest pain and difficult

breathing. Predisposing factors: Individuals with pre-existing respiratory impairments (such as emphysema) can display increased sensitivity to oil mists or vapors. CHRONIC: SKIN: None Known. EYE: None Known. INHAL: None Known. INGEST: None Known.

MINERAL OIL: ACUTE: SKIN: May irritate the skin. Predisposing factors: Usually individuals with sensitive skin or large amounts of body hair. Material is not sterile and may infect open cuts or sores. When tested, an essentially identical mixture was judged to be non-irritating per 16 CFR 1500.3(c)(4). Primary irritation index=2 (Albino Rabbits). EYE: When tested, an essentially identical mixture was judged to be non-irritating per 16 CFR 1500.42 No corneal opacity, iritis or moderate conjunctival irritation after; 1,2,3 days (Draize, rabbits). INGEST: Acute oral toxicity: LD 50>5 gm./kg. (rats). INHAL: Observe OSHA limits for oil mist. Target organs are respiratory system and lungs. Symptoms of overexposure to oil mist include coughing, sore throat, headache, chest pain and difficult breathing. Predisposing factors: Individuals with pre-existing respiratory impairments (such as emphysema) can display increased sensitivity to oil mists or vapors. CHRONIC: SKIN: Prolonged repeated skin contact can cause skin irritation or oil acne: Inflammation and blackheads due to mechanical blockage of the pores. Prolonged or repeated exposure may aggravate existing dermatitis. EYE: None known. INGEST: None known. INHAL: None known. The manufacturer of the mineral oil used in this product reports the oil has been hydrotreated at such temperatures and pressures to eliminate potential carcinogenicity. The fact that this product is severely hydrotreated, means the oil does not require labelling according to OSHA regulations. This mineral oil is periodically monitored using the Sun Predictor test, Modified Ames Assay, FDA 21CFR178.3620(c), and IP 346 to further confirm this oil is not a potential carcinogen. This oil passes the Sun Predictor Test with fewer than one percent mice developing tumors; the maximum value to be considered a pass is 8 percent. This oil typically has an FDA 21CFR178.3620(b) absorbance value between 280nm and 289nm of less than 35. The conclusions of the Sun Oil study on oils with absorbance values less than 200 are that the oils will easily pass as non-carcinogenic. This oil also passes FDA 21CFR178.3620(c), which is identified for use as a component of non-food articles with incidental food contact. Modified Ames testing is performed by an independent laboratory and shows mutagenicity indices of less than 1. Typical values are 0.2 MI, which do not cause a positive increase in the number of revertants per plate. The IP 346 test method is utilized in Europe to determine potential carcinogenicity. This mineral oil typically gives values of 0.2% PNA content by DMSO extract.

EMERGENCY FIRST AID

INHALATION: Remove from further exposure. If unconsciousness occurs, seek immediate medical assistance and call a physician. If breathing has stopped, begin mouth to mouth resuscitation. EYE CONTACT: Remove contact lenses(if wearing) and flush eyes with water for 15 minutes. Seek medical attention to check for possible irritation. SKIN CONTACT: Wash contact areas with mild non-abrasive soap and water. INGESTION: Do not induce vomiting. Get medical assistance. (Note to physician: Material if aspirated into the lungs may cause chemical pneumonitis. Treat appropriately).

SECTION 7 HANDLING, STORAGE AND USE PROCEDURES

NORMAL STORAGE AND HANDLING: Store away from heat or flame as the material will expand if overheated and possibly rupture the container spilling the contents. The spilled material will create a slip hazard and will burn if ignited. If stored outdoors, store so as to shed water to prevent pollution by water and dirt. Plastic containers are brittle if frozen and may split and leak if handled roughly. Since emptied containers retain material residue, follow label warnings even after container is emptied and do not reuse container for other purposes. All precautions detailed on the container label apply to partially full or empty containers. Do not transfer to unlabeled containers. Use personal protection equipment and precautions as specified in Section 8. Do not cut, braze, weld, solder, or pressurize container as doing so may cause container to EXPLODE, potentially causing serious injury or DEATH. NORMAL USE: Practice good personal hygiene while honing. Wash hands thoroughly to remove honing oil and microscopic particles of metal debris (suspended in the oil) before touching other parts of the body, food, drinks or smoking to avoid contact with or ingestion of metal fines. Clean material from parts using alkaline cleaner. Pollution by any amount of water or alkaline material will lead to the formation of non-hazardous soaps that clog the Honing

Machine oil filter. Avoid prolonged inhalation of mist or vapors. FOR INDUSTRIAL USE ONLY. Not suitable for use in or around household or dwelling. STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS: Ventilate if large amount is spilled in a confined space. Contain and absorb on fire-retardant treated sawdust, diatomaceous earth or other suitable absorbent and place in fireproof waste container. Notify Coast Guard if spill could reach any waterways (1-800-424-8802) and also local/state authorities. Spilled material is greasy and produces a slip/fall hazard. WASTE DISPOSAL METHOD: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR 261D), is not ignitable, not corrosive, not reactive and is not formulated with the metals cited in the EP Toxicity Test. Used material may be regulated. Do not attempt to clean container as residue is difficult to remove. Containers should be disposed of in an environmentally safe manner and in accordance with applicable federal, state and local laws, regulations, rules, orders and ordinances.

SECTION 8 PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Normal honing operations using honing oil do not generate harmful levels of mists or fumes in the operators breathing zone. If unusual honing conditions generate any strong odor or detectable oil mist use NIOSH approved respirator rated for mineral oil mist to maintain oil mist levels below OSHA PEL levels. VENTILATION: Normal ventilation is required. Do not operate honing machine within a closed un-ventilated space. If strong odors or oil mist is detected, use forced ventilation to maintain levels of fumes or mists below OSHA PEL levels. SKIN PROTECTION: Oil impervious gloves (neoprene) recommended while handling concentrate. Launder contaminated clothing before reuse. Avoid wearing clothing soaked with fluid. Note that honing oil flowing over the work-piece while honing will contain small chips from the work-piece and abrasive debris. These materials may be irritating to the skin and eyes. Some materials that are not normally irritating to the skin may be converted to a form that is irritating when trapped in skin pores and acted upon by sweat. Oil impervious gloves should be worn while honing in the event any symptoms of skin distress appear. Note that some barrier creams have been shown to increase skin absorption of metallic compounds and also that many people are allergic to chemicals used in protective gloves. EYE PROTECTION: Always wear NIOSH approved safety glasses when honing or operating machinery. OTHER EQUIPMENT: Oil-impervious apron if desired. MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL: Same as for petroleum lubricating oil. Remove traces of material if soldering, welding, brazing, cutting or other process involving ignition sources to prevent a fire hazard.

SECTION 9 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 264°F (129°C) ASTM D-92. EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog. SPECIAL FIRE FIGHTING PROCEDURES: Treat as a grease fire. For fires in enclosed areas, fire fighters must use self-contained breathing apparatus. AUTO-IGNITION TEMPERATURE: Not Established UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustion will produce oxides of carbon, chlorine and sulfur. Towels, rags or other insulating absorbent fibrous media contaminated with any oil product should be stored in appropriate fireproof container that is emptied daily, to limit spontaneous combustion hazard. Although not classified as "combustible" (based on flash point and ignition properties) this product can be made to burn and will serve as a fuel source for a fire. Sealed containers may melt, leak, burst or explode, releasing contents and spreading fire, if exposed to extreme heat.

NOTICE

THIS MATERIAL SAFETY DATA SHEET ("MSDS") IS SUPPLIED PURSUANT TO THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S HAZARD COMMUNICATION RULE (THE "RULE"), 29 CFR 1910.1200. THIS MSDS IS BEING FURNISHED TO THE IMMEDIATE

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ATTACH LABEL TO MACHINE



ATTENTION
CONTAINS
SUNNEN MB-40 HONING OIL
DO NOT TAKE INTERNALLY. WASH
HANDS OFFEN. READ MSDS PRIOR
TO WORKING WITH THIS MATERIAL.

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