



June 1, 1995

Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, CA 94502

ATTENTION: Mr. Brian Oliva

SUBJECT: WORKPLAN FOR OVEREXCAVATION ACTIVITIES  
Former Charles Lowe Facility  
1400 Park Avenue  
Emeryville, CA

Mr. Oliva:

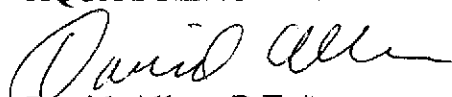
Please find attached your copy of Aqua Science Engineers, Inc.'s (ASE) subject workplan. ASE has been contracted to perform the assessment activities by the Thomas A. Short Company (TASCO) who recently purchased the assets of the Charles Lowe Company. Any subsurface contamination issues still remain the property of the Charles Lowe Company; the generator of the assumed contamination at the subject property.

We appreciate your expeditious review of this workplan, and look forward to hearing from you in the very near future regarding your comments and/or approval of the workplan. As the schedule notes within the workplan, ASE hopes to perform the proposed scope of work within the next two weeks, pending your approval and field-work schedule.

Please feel free to call us at (510) 820-9391 should any questions or comments arise.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

  
David Allen, R.E.A.  
Project Manager



Attachment

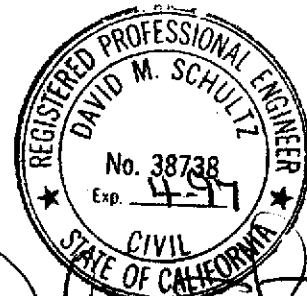


PO 2656  
WORKING  
AREA

June 1, 1995

WORKPLAN  
for  
SOIL OVEREXCAVATION AND  
SUBSURFACE ASSESSMENT, NO. 2868  
at  
The Former Charles Lowe Facility  
1400 Park Avenue  
Emeryville, CA

Submitted by:  
AQUA SCIENCE ENGINEERS, INC.  
2411 Old Crow Canyon Road, #4  
San Ramon, CA 94583  
(510) 820-9391



*David M. Schultz*

## **INTRODUCTION**

This submittal outlines Aqua Science Engineer's, Inc. (ASE) proposed workplan for overexcavation activities and a limited soil and groundwater investigation at the former Charles Lowe facility located at 1400 Park Avenue in Emeryville, California (Figure 1). The proposed site assessment will address the concerns raised by Mr. Brian Oliva of the Alameda County Health Care Services Agency (ACHCSA) as detailed in his inspection report dated April 8, 1995 (Appendix A).

ASE has been contracted to perform the assessment activities by the Thomas A. Short Company (TASCO) who recently purchased the assets of the Charles Lowe Company. Any subsurface contamination issues still remain the property of the Charles Lowe Company; the generator of the assumed contamination at the subject property.

## **SITE HISTORY**

The current property and building owner is Emeryville Properties of San Francisco, CA. The Charles Lowe Company has been renting the property since the late 1970s and has conducted business in the subject facility since its acquisition earlier this year. The Charles Lowe Company operated a machine shop repairing, servicing and overhauling pumps, turbines, compressors, valves and the like.

Six (6) groundwater monitoring wells have been installed at the site by others to investigate for the presence of metals and other chemicals associated with the Charles Lowe Company operations. At this time ASE has not reviewed any reports regarding the installation or quarterly sampling of the monitoring wells.

## **PROPOSED SCOPE OF WORK (SOW)**

Based on the site history, the requirements as stated in the ACHCSA letter, and a recent site walk with TASCO and Charles Lowe Company representatives, ASE's proposed SOW is as follows:

1. Prepare a site-specific health and safety plan for review and approval by the ACHCSA, Mr. Brian Oliva. See Appendix B for a copy of the Health & Safety Plan.

2. Inspect the below-grade concrete areas for any discernable failures or cracks after areas have been thoroughly cleaned of residual debris and properly disposed of (Figure 2). ASE does not anticipate collecting any subsurface samples from either area based on the initial preliminary walk-thru and informal inspection.
3. Confirm that the wooden floor above the former honing oil tank has been removed.
4. Remove surface materials as necessary. Surface materials include the concrete floor of the former truck dock (Figure 2). Concrete will be stockpiled in the rear of the property.
5. Excavate the accessible soil from below and around the floor of the former truck dock. Excavation boundaries will be limited horizontally by the walls and foundation of the truck dock, and vertically by groundwater.
6. Using a vacuum truck service, evacuate groundwater from the excavation pit, as necessary, to allow for removal of additional contaminated soil.
7. Stockpile all overexcavated soil on plastic in the rear of the property. Cover completely with plastic. *Characterize Stockpile*
8. Sample the native soil within the excavation pit. Two (2) soil samples will be collected and chemically analyzed for all of the following: total extractable petroleum hydrocarbons (TEPH) as diesel and honing oil by EPA Method 3550/8015, oil and grease by EPA Method 5520 E & F, and for CAM 17 metals by EPA Method 6000 series. *Check for Solvents*
9. Sample the groundwater, if any, within the excavation pit. One (1) grab groundwater sample will be collected and chemically analyzed for all of the following: TEPH as diesel and honing oil by EPA Method 3550/8015, oil and grease by EPA Method 5520 E & F, and for CAM 17 metals by EPA Method 6000 series. Samples will be filtered by the laboratory prior to analyses. *Solvent*

10. Sample the overburden/stockpiled soil. One (1) composited sample will be collected and chemically analyzed for all of the following: TPH-G and BTEX by EPA Method 5030/8015-8020, TEPH as diesel and honing oil by EPA Method 3550/8015, volatile organic compounds (VOCs) by EPA Method 8010, oil and grease by EPA Method 5520 E & F, ~~semi-VOCs~~ by EPA Method 8270, reactivity, corrosivity and ignitability (RCI), and for the LUFT five metals cadmium, chromium, lead, nickel and zinc by EPA Method 6000 series.
- OK 11. Plastic line the excavation and then backfill and compact with clean, imported, highly-compactable, sub-base granular fill.
- OK 12. Manifest and dispose of all evacuated groundwater at a licensed recycling facility.
- OK 13. Resurface the excavation with concrete upon receipt of favorable analytical results from the certified laboratory (7 working days).
14. Profile contaminated/stockpiled soil for acceptance into landfill facility.
15. Offhaul contaminated soil to appropriate landfill.
16. Prepare a summary report detailing the methods and findings of the project.

## MISCELLANEOUS PROCEDURES

### COLLECTION OF SOIL SAMPLES

After all the obviously contaminated soil has been removed from the excavation, ASE will collect soil samples from the sidewalls and/or bottom of the excavation to verify that all hydrocarbon-bearing soil has been removed. ASE will also collect soil samples from the stockpiled/overexcavated soil. The soil samples will be collected either from the backhoe bucket or from a shovel. A portion of the soil from the bucket or shovel will be placed into a 6-ounce, pre-cleaned, glass sample jar supplied by the analytical laboratory. Each sample will be sealed with a plastic threaded cap, discretely, labeled, placed in a plastic bag and stored on wet ice in a cooler for delivery to a CAL-EPA certified laboratory for chemical analysis under proper chain of custody procedures.

## COLLECTION OF GRAB GROUNDWATER SAMPLES

After allowing groundwater to recharge back into the excavation, ASE will collect a grab groundwater sample using a new disposable bailer. The groundwater will be decanted from the bailer into 40-ml glass volatile organic analysis (VOA) vials, one 1-liter amber glass bottles, and plastic bottles supplied by the laboratory. These samples will be preserved, labeled and stored on wet ice for transport to the analytical laboratory under proper chain of custody procedures.

## PERFORMANCE OF OTHER TASKS ADDRESSED IN ACHCSA LETTER

Mr. Oliva has requested that six (6) additional tasks be performed prior to vacating the premises. These six tasks include mainly general housekeeping activities of which some may or may not have already been conducted. This workplan does not address any of those 6 tasks.


## SCHEDULE

ASE anticipates beginning work at this site within the second and third week of June 1995.

Aqua Science Engineers appreciates the opportunity to assist TASC0 and the Charles Lowe Company with its environmental needs. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

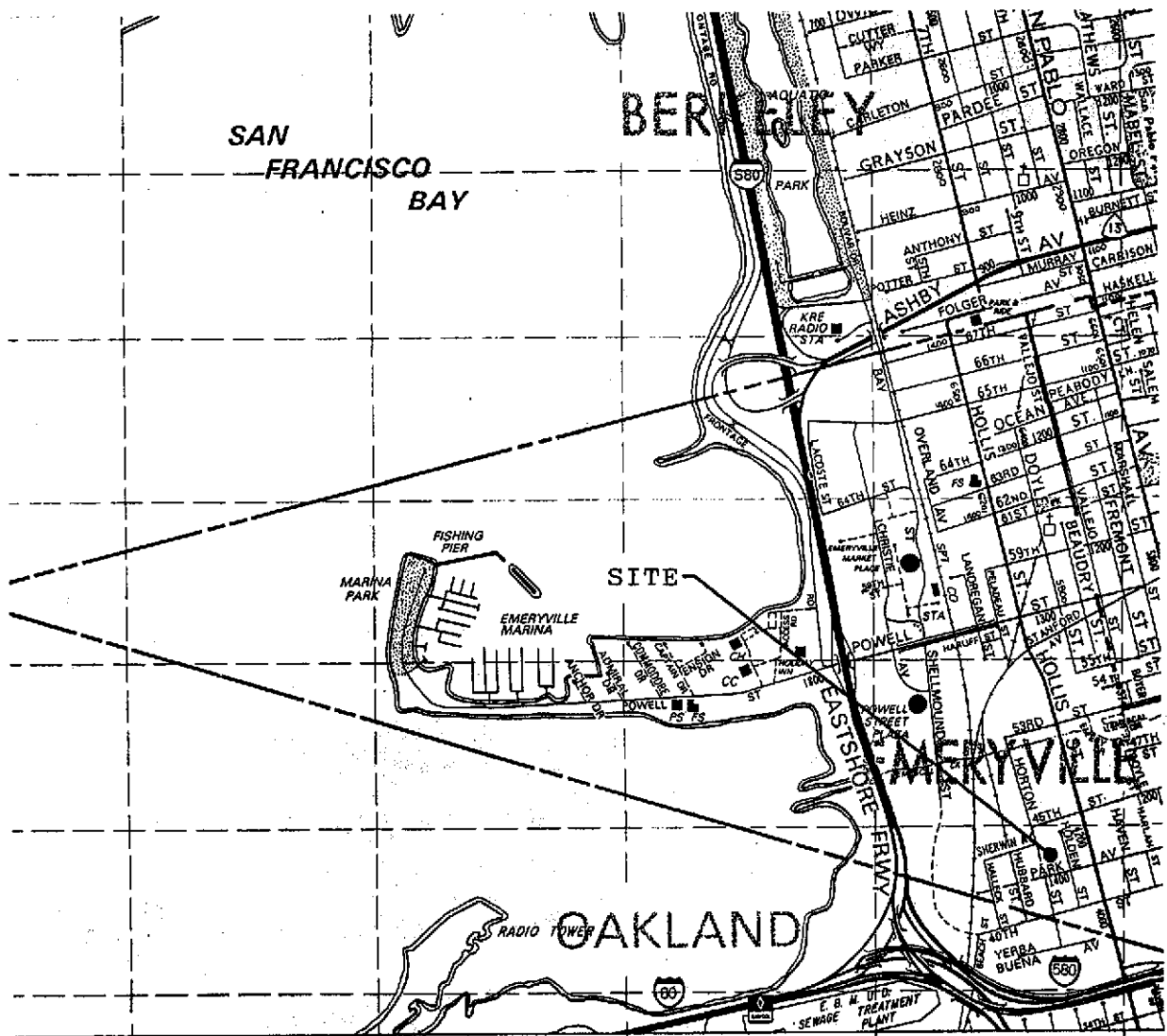
AQUA SCIENCE ENGINEERS, INC.

  
David Allen, R.E.A.  
Project Manager



Attachments: Figures 1 & 2  
Appendix A & B

cc: Mr. Thomas D. LaFlamme, TASC0  
Mr. Brian Oliva, ACHCSA  
Ms. Kari Erickson, Attorney at Law



NORTH

### LOCATION MAP

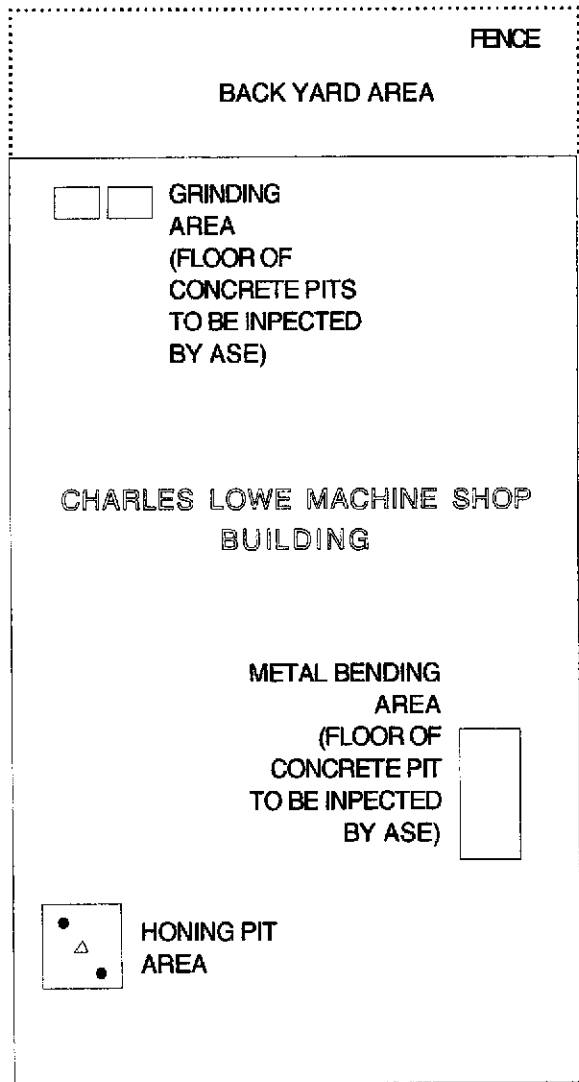
Former Charles Lowe Facility  
 1400 Park Avenue  
 Emeryville, California

Aqua Science Engineers

Figure 1

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FENCE

BACK YARD AREA

GRINDING  
AREA  
(FLOOR OF  
CONCRETE PITS  
TO BE INPECTED  
BY ASE)



CHARLES LOWE MACHINE SHOP  
BUILDING

METAL BENDING  
AREA  
(FLOOR OF  
CONCRETE PIT  
TO BE INPECTED  
BY ASE)



HONING PIT  
AREA



SIDEWALK

PARK AVENUE



NORTH

NOT TO SCALE

LEGEND



SOIL SAMPLE TO BE COLLECTED  
AFTER OVEREXCAVATION



GRAB GROUNDWATER SAMPLE  
TO BE COLLECTED AFTER  
OVEREXCAVATION

SITE PLAN

Former Charles Lowe Facility  
1400 Park Avenue  
Emeryville, California

Aqua Science Engineers

Figure 2



ALAMEDA COUNTY ENVIRONMENTAL HEALTH / HAZARDOUS MATERIALS DIVISION  
1131 HARBOR BAY PKWY., RM. 250, ALAMEDA, CA 94502-6577 (510)567-6700 FAX (510) 337-9355

HAZARDOUS WASTE GENERATOR INSPECTION REPORT

STID # 319	FACILITY NAME Thomas Short / Chole Low	PG. <u>1</u> OF <u>2</u>
SUPPLEMENTAL FORM		

On site for investigation 1400 Pch  
relating to closure of business  
There is a sump area at the West End corner  
of the building. The area was formerly used  
for a "Wattle Hole" the Herb Container  
a reservoir (oil-light weight) - there is a pad concrete  
at the bottom of the sump. there is ground  
water in the bottom of the sump - the sump  
is not completely concrete lined. It will  
be necessary to investigate this area  
to identify possible groundwater impact  
from the oil.

Required actions

- 1) Submit a plan for investigation for  
of this area -
- 2) The plan should include but should  
not be limited to: groundwater  
and soil sampling. Removal of contaminated  
soil. It should contain recommendations  
for addressing contamination (if found).  
with 30 days

PRINT NAME: X Mike Benjamin	INSPECTED BY: Ben De
SIGNATURE: X [Signature]	DATE: 4/18/95

ALAMEDA COUNTY ENVIRONMENTAL HEALTH / HAZARDOUS MATERIALS DIVISION  
1131 HARBOR BAY PKWY., RM. 250, ALAMEDA, CA 94502-6577 (510)567-6700 FAX (510) 337-9355

HAZARDOUS WASTE GENERATOR INSPECTION REPORT

Page

STID #: 319

FACILITY NAME: T Home Start / Charles Lowe

PG. 2 OF 2

SUPPLEMENTAL FORM:

Continued

On site for inspection of site prior to closure of facility. (Per 1 completed regarding sample SW and) There are several below grade concrete areas - several photographs taken of area that potentially may have caused discharge to surface. - should be investigated

Other Required Actions to be completed prior to leaving

- 1 Remove, dispose, manifest off the property hazardous wastes containers at all site premises
- 2 Provide manifests for all materials removed from the site and send them manifest to the office (your office)
- 3 eliminate all discharge of hazardous wastes onto the surface, inside or outside
- 4 Remove hazardous materials from site like oil etc (may be re-used)
- 5 manifest solid absorbent used as hazardous waste
- 6 Call the office for final inspection prior to leaving premises

PRINT NAME: Michael P. Romano  
SIGNATURE: Michael P. Romano

INSPECTED BY: [Signature]  
DATE: 4/18/95

**APPENDIX B**

**Health and Safety Plan**



# SITE HAZARD INFORMATION

\*PLEASE PROVIDE THE FOLLOWING INFORMATION FOR THE SITE

Owners Name: THE CHARLES LOWE COMPANY / TASCO

Site Address: 1400 PARK AVENUE  
EMERYVILLE, CA

Directions to Site: \_\_\_\_\_  
\_\_\_\_\_

Consultant On Site: AQUA SCIENCE ENGINEERS, INC. Phone Number: (510) 820-9391

Site Safety Officer: DAVID ALLEN Phone Number: (510) 946-6646

Type of Facility: FORMER MACHINE SHOP

- Site Activities:  Drilling  Construction  Tank Excavation  Soil Excavation  Work in Traffic Area  
 Groundwater Extraction  Vapor Extraction  In Situ Remediation  Above Ground Remediation  
 Other: \_\_\_\_\_

### Hazardous Substance

Name (CAS#)	Expected Concentration	Health Affects
<u>HONING OIL</u>	<input checked="" type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Air <u>1000 ppm</u>	<u>See Attached MSDS</u>
<u>CHROMIUM</u>	<u>50 ppm</u>	<u>Respiratory Irritant</u>

### Physical Hazards

- Noise  Excavations/Trenches  
 Traffic  Other \_\_\_\_\_  
 Underground Hazards \_\_\_\_\_  
 Overhead Hazards \_\_\_\_\_

Potential Explosion and Fire Hazards (Flammable Range = 1% to 10% Gas Vapor): \_\_\_\_\_  
\_\_\_\_\_

### Level Of Protection Equipment

- A  B  C  D  See Personal Protective Equipment

### Personal Protective Equipment

R = Required A = As Needed

- R Hard Hat R Safety Eyewear (Type) \_\_\_\_\_  
R Safety Boots \_\_\_\_\_ Respirator (Type) \_\_\_\_\_  
 \_\_\_\_\_ Orange Vest \_\_\_\_\_ Filter (Type) \_\_\_\_\_  
R Hearing Protection R Gloves (Type) \_\_\_\_\_  
 \_\_\_\_\_ Tyvek Coveralls \_\_\_\_\_ Other \_\_\_\_\_  
 \_\_\_\_\_ 5 Minute Escape Respirator \_\_\_\_\_

# SITE HAZARD INFORMATION

## Monitoring Equipment on Site

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Organic Vapor Analyzer | <input type="checkbox"/> PID with lamp of _____ eV |
| <input type="checkbox"/> Oxygen Meter                      | <input type="checkbox"/> Draeger Tube _____        |
| <input type="checkbox"/> Combustible Gas Meter             | <input type="checkbox"/> Passive Dosimeter         |
| <input type="checkbox"/> H <sub>2</sub> S Meter            | <input type="checkbox"/> Air Sampling Pump         |
| <input type="checkbox"/> W.B.G.T.                          | <input type="checkbox"/> Filter Media _____        |

Site Control Measures NO ONE WILL BE ALLOWED INTO THE EXCAVATION ZONE UNLESS PROPERLY TRAINED & CERTIFIED BY OSHA STANDARDS AS OUTLINED IN 29 CFR 1910 & 1926.

Decontamination Procedures ALL EQUIPMENT, TOOLS, AND PPE WILL BE CLEANED FREE OF ALL CONTAMINATED SOIL WHILE ON SITE. SOIL WILL BE STOCKPILED WITH ALL OF CONTAMINATED OVEREXCAVATED SOIL. ALL PPE WILL BE DISPOSED OF APPROPRIATELY.

Hospital/Clinic ALTA BATES HOSPITAL Phone (510) 540-0337

Hospital Address 3001 COLBY PLAZA BERKELEY

Paramedic 911 Fire Dept. 911 Police Dept. 911

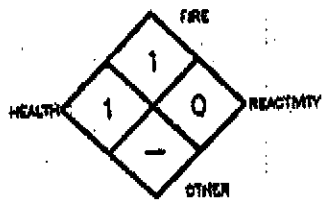
Emergency/Contingency Plans & Procedures CALL 911

Site Hazard Information Provided By: DAVID ALLEN Phone Number: (90) 820-9391

David Allen Print  
David Allen Signature Date: 6-1-95



# MATERIAL SAFETY DATA SHEET



## SECTION 1 NAME AND PRODUCT

### MANUFACTURER'S NAME AND ADDRESS:

SUNNEN PRODUCTS COMPANY  
 7910 Manchester Ave.  
 St. Louis, MO 63143  
 U.S.A.

CONTACT:  
 EMERGENCY PHONE NO:  
 APPROVED BY:  
 TITLE:  
 DATE:

Chuck Korn  
 314-781-2105  
 Terry Heller  
 Manager, Materials R&D  
 January 1, 1993

TRADE NAME: MB-30-S OR MB-30-55 HONING OIL OR VGS-20657 SEAT CUTTING OIL

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

CHEMICAL NAME OF COMPONENTS	CAS NO.	OSHA ZIA 6 HR TWA	OSHA ZIA STEL	OSHA ZIA SKIN mg/cm <sup>2</sup>	ACGIH TWA	CARCINOGENIC
PETROLEUM DISTILLATE	64741-44-2	5(mist)	NONE	NONE	5(mist)	N(1)
and/or						
PETROLEUM DISTILLATE SEVERELY HYDROTREATED, LIGHT NAPHTHENIC	64742-53-6	5(mist)	NONE	NONE	5(mist)	N(1,2)
and/or						
PETROLEUM DISTILLATE SEVERELY HYDROTREATED, HEAVY NAPHTHENIC	64742-52-5	5(mist)	NONE	NONE	5(mist)	N(1)
ANIMAL FATTY OIL	9016-28-2	NONE	NONE	NONE	NONE	N
SULFURIZED LARD OIL	68991-70-8 and/or 68990-81-8	NONE	NONE	NONE	NONE	N
TOLYLTRIAZOLE	29385-43-1	NONE	NONE	NONE	NONE	N

THE EXACT COMPOSITION OF THIS MATERIAL IS BEING WITHHELD AS A TRADE SECRET OF SUNNEN PRODUCTS COMPANY. FOR FURTHER SAFETY AND HEALTH INFORMATION REGARDING THE COMPOSITION OF THIS MATERIAL CONTACT SUNNEN PRODUCTS. (1) Mineral oil used in the occupation of metal machining is known to the state of California to cause cancer. (2) Note that the CAS number refers to the material prior to additional hydrotreating. No CAS number is available to describe the material after additional severe hydrotreating. The severely hydrotreated oil is not cited by IARC.

These mixture ingredients are cited on the following lists:

Name	CAS	Citations
MINERAL OIL	64742-53-6 and/or 64741-44-2 and/or 64742-52-5	2,4,5,6,9,10,11,12,13,14,16,17
SULFURIZED LARD OIL	68991-70-8 and/or 68990-81-8	NONE
ANIMAL FATTY OIL	9016-28-2	5,6,10,21,22
TOLYLTRIAZOLE	29385-43-1	NONE

1=IARC 2=OSHA 3=NTP 4=ACGIH 5=NTPA49 6=NTPA325M 7=DOT HMT 49CFR172.101 8=EPA SARA III 9=RTCS 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=NY 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)	0.85
APPEARANCE AND ODOR	Dark brown mobile liquid with characteristic odor of sulfurized fat.
PERCENT VOLATILE BY WEIGHT	<1%
REACTIVITY IN WATER	No hazardous reactions.
BOILING POINT	>500 F (260 C)
VAPOR DENSITY (Air=1)	Heavier than air.
VAPOR PRESSURE (mm Hg)	<.1mm Hg @ 68 F (20 C)
EVAPORATION RATE	Negligible
SOLUBILITY IN WATER	Negligible. Material is completely soluble in common hydrocarbon or chlorinated hydrocarbon solvents such as mineral spirits or trichloroethane.

## SECTION 4 SPECIAL PRECAUTIONS

HANDLING AND STORAGE: Store away from heat or flame. 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):** Strong oxidation agents such as fuming nitric acid may produce hazardous reactions. 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 and Carbon.

## 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 sections: **SKIN**=Skin absorption. **EYE**=Eye contact. **INHAL**=Inhalation **INGEST**=Ingestion. **THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA.**

**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 ACGIH 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. **Mineral oil used in the occupation of metal machining is known to the state of California to cause cancer.**

### 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. Call physician or poison control center immediately.

## 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. Material is for use in Honing Machines only. Material may be mixed with other Sunnen Honing Oils only. 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. Empty drums should be completely drained, properly closed and returned to a drum conditioner to be commercially cleaned. Otherwise, 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 ACGIH TLV and OSHA PEL/TLV 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 ACGIH TLV and OSHA PEL/TLV levels. **SKIN PROTECTION:** Not normally required for short exposures while honing with oil. 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:** 310 F (155 C) ASTM D-92. **EXTINGUISHING MEDIA:** Carbon dioxide, foam, dry chemical and water fog. **SPECIAL FIRE FIGHTING PROCEDURES:** For fires in enclosed areas, firefighters must use self-contained breathing apparatus. **AUTO-IGNITION TEMPERATURE:** Not Established **UNUSUAL FIRE AND EXPLOSION HAZARDS:** Combustion will produce oxides of carbon 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.

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