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MATERIAL SAFETY DATA SHEET

DAVIS-HOWLAND OIL CORP. 200 ANDERSON AVE. ROCHESTER NEW YORK

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME DSL SUPER AFGO 80/90	PRODUCT CODE
CHEMICAL NAME Petroleum Lubricating Oil	CAS NUMBER Complex Mixture CAS Number not applicable
PRODUCT APPEARANCE AND ODOR Clear, dark brown liquid Mild, bland odor	
EMERGENCY TELEPHONE NUMBER (713) 656-3424	

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Lubricating Oil Base Stocks	64742-54-7 or 64742-65-0 and 64742-62-7	Approximately 98%
Proprietary additives	Mixture	Approximately 2%
EXPOSURE LIMIT FOR TOTAL PRODUCT BASIS 5 mg/m3 for oil mist in air OSHA Regulation 29 CFR 1910.1000		

C. EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN CONTACT
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer

oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION

If ingested, call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM)

Greater than 204°C (399°F)
ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE

Greater than 260°C (500°F)

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)

Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION

VARIABILITY AMONG INDIVIDUALS

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis.

TOXICITY INFORMATION

Product has a low order of acute oral toxicity.

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE

IBP Approximately 916°C (600°F)
by ASTM D 2887

VAPOR PRESSURE

Less than 0.01 mm Hg @ 20°C

SPECIFIC GRAVITY (15.6°C/15.6°C)

0.91

VAPOR DENSITY (AIR = 1)

Greater than 5

MOLECULAR WEIGHT

Not determined

PERCENT VOLATILE BY VOLUME

Negligible from open container
in 4 hours @ 38°C (100°F)

pH

Essentially neutral

EVAPORATION RATE @ 1 ATM., AND 25°C (77°F)

(n-BUTYL ACETATE = 1)
Less than 0.01

POUR, CONGEALING OR MELTING POINT

-18°C (0°F)

Pour Point by ASTM D 97

SOLUBILITY IN WATER @ 1 ATM., AND 25°C (77°F)

Negligible; less than 0.1%

VISCOSITY

220 cSt @ 40°C

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. SPILL OR LEAK PROCEDURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Open all windows and doors. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

I. PROTECTION AND PRECAUTIONS**VENTILATION**

Use local exhaust to capture vapor, mists or fumes, if necessary. Provide greater than 60 feet per minute hood face velocity for confined spaces. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION

Normally not needed at ambient temperatures. Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS

Keep containers closed when not in use. Do not handle or store near heat, sparks, flame or strong oxidants.

PERSONAL HYGIENE

Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION INFORMATION

TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

The information and recommendations contained herein are, to the best of DHOC's knowledge and belief, accurate and reliable as of the date issued. DHOC does not warrant or guarantee the accuracy or reliability, and DHOC shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:

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Operations