

Prod.Name: IMP 6148 POWER STEERING FLUID
Manufacturer: IMPERIAL OIL
HMCS ID: 349179
SUC: 04 - Metal Working Fluids and Lubricants

MATERIAL SAFETY DATA SHEET

Revision: 30.May.2002
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1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: IMP 6148 POWER STEERING FLUID

Product Synonyms:
POWER STEERING FLUID

External Keys:

10-5030 Distributable Material (Part #)
9985010 Productive Materials
10-5031 Distributable Material (Part #)
12378469 Distributable Material (Part #)
89020661 Distributable Material (Part #)
89021182 Distributable Material (Part #)
89021184 Distributable Material (Part #)
89021185 Distributable Material (Part #)
89021187 Distributable Material (Part #)
POWER Primary Tradename - Distributable Material
STEERING
FLUID

MANUFACTURER INFORMATION

Manufacturer: IMPERIAL OIL

Address:

145 HIGHWAY 8 CAN ONTARIO LORIT LYNDEN MAILING
0

Communication Lines:

Phone 416-648-2229 INFO

Comment:

CONTACT NAME: GORDON ALEXANDER. PRODUCT DESCRIPTION: MIXTURE OF PARAFFINIC AND NAPHTHENIC HYDROCARBONS (SATURATED AND UNSATURATED) AND ADDITIVES.

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Prefix</u>	<u>Value</u>	<u>Unit</u>	<u>Exposure Limits</u>
KEROSENE	8008-20-6	<	0.1	% Wt	No
XYLENOL, PHOSPHATE (3:1)	25155-23-1	<	1	% Wt	No
Octadecanoic acid, 12-hydroxy-, homopolymer	27924-99-8	Range	1 - 3	% Wt	No
SF-96	63148-62-9	<	0.1	% Wt	No
MINERAL OIL, PETROLEUM DISTILLATES, SOLVENT-REFINED (severe)	64741-88-4	Range	66 - 76	% Wt	No
HEAVY PARAFFINIC MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (severe)	64742-53-6	Range	20 - 27	% Wt	No
LIGHT NAPHTHENIC MINERAL OIL, PETROLEUM DISTILLATES, SOLVENT-DEWAXED HEAVY PARAFFINIC (severe solvent-refining and/or hydrotreatment)	64742-65-0	<	0.1	% Wt	No
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	<	0.1	% Wt	No
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene	68921-45-9	<	1	% Wt	No

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<u>Chemical Name</u>	<u>CAS Number</u>	<u>Prefix</u>	<u>Value</u>	<u>Unit</u>	<u>Exposure Limits</u>
Tar acids, cresylic, C8-rich, phosphates	68952-33-0	<	1	% Wt	No
DISPERSANT	989915-71-0	<	1	% Wt	No
VI IMPROVER	989937-83-0	Range	3 - 7	% Wt	No
INFINEUM V387 (FID 356807)	989986-73-7	<	0.5	% Wt	No
MINERAL OIL ADDITIVE					
VISCOPLEX 1-154 (SEE FID #343411)	989987-11-9	<	0.5	% Wt	No

Comment:

Other Information: CAS # 989937830 IS A MIXTURE THAT IS COMPRISED OF CAS # 68516-84-7, 64742-52-5 AND 64741-88-4. CAS# 989987119 IS A MIXTURE COMPRISED OF CAS #'S 64742-5-0 AND 64741-88-4. THIS PRODUCT IS NOT HAZARDOUS ASDEFINED IN 29 CFR 1910.1200. CAS #989915710 IS A GENERIC CAS# REPRESENTING A MIXTURE OF CAS #'S 67762-79-2 AND 64741-88-4.

3 HAZARDS IDENTIFICATION

Hazards Overview:

Skin Primary Entry: Yes. Eye Primary Entry: Yes. Inhalation Primary Entry: Yes. Ingestion Primary Entry: Yes.

Specific Hazards (Routes Of Exposure):

<u>Exposure Routes</u>	<u>Exposure Duration</u>	<u>Observation</u>
Skin Contact	General	POTENTIAL HEALTH EFFECTS: LOW ORDER OF ACUTE TOXICITY. FREQUENT OR PROLONGED CONTACT MAY IRRITATE THE SKIN.
Eye Contact	General	POTENTIAL HEALTH EFFECTS: SLIGHTLY IRRITATING, BUT WILL NOT INJURE EYE TISSUE.
Inhalation	General	POTENTIAL HEALTH EFFECTS: NEGLIGIBLE HAZARD AT NORMAL TEMPERATURES (UP TO 38 DEG C). ELEVATED TEMPERATURES OR MECHANICAL ACTION MAY FORM VAPORS, MISTS OR FUMES WHICH MAY BE IRRITATING TO THE EYES, NOSE, THROAT AND LUNGS. AVOID BREATHING VAPORS OR MISTS.
Ingestion	General	POTENTIAL HEALTH EFFECTS: LOW ORDER OF ACUTE TOXICITY.

Medical Conditions Aggravated By Exposure:

NOT YET DETERMINED.

Comment:

Additional Health Hazard Data: 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 NOT BE MINIMIZED.

4 FIRST AID MEASURES

First Aid By::

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.
Skin Contact	FLUSH WITH LARGE AMOUNTS OF WATER. USE SOAP IF AVAILABLE. REMOVE SEVERELY CONTAMINATED CLOTHING (INCLUDING SHOES) AND LAUNDRER BEFORE REUSE. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.
Eye Contact	FLUSH EYES WITH CLEAR WATER FOR 15 MINUTES OR UNTIL IRRITATION SUBSIDES. IF IRRITATION PERSISTS, CALL A PHYSICIAN.
Ingestion	IF INGESTED, KEEP AT REST AND CALL A PHYSICIAN. DO NOT INDUCE VOMITING UNLESS DIRECTED TO DO SO BY A MEDICAL PROFESSIONAL.

5 FIRE FIGHTING MEASURES

Flash Point:

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= 175 C COC.
= 347 F COC.

Flash Point Method Text:ASTM D92.
Flash Point Method Text:ASTM D92.

Autoignition Temperature:

> 300 C
> 572 F

Special Fire Fighting Procedures:

SPECIAL PRECAUTIONS: RESPIRATORY AND EYE PROTECTION REQUIRED FOR FIRE FIGHTING PERSONNEL. AVOID SPRAYING WATER DIRECTLY INTO STORAGE CONTAINERS DUE TO DANGER OF BOIL-OFF. A SELF-CONTAINED BREATHING APPARATUS (SCBA) SHOULD BE USED FOR ALL INDOOR FIRES AND ANY SIGNIFICANT OUTDOOR FIRES. FOR SMALL OUTDOOR FIRES, WHICH CAN EASILY BE EXTINGUISHED WITH A PORTABLE FIRE EXTINGUISHER, USE OF AN SCBA MAY NOT BE REQUIRED. EXTINGUISHING MEDIA AND FIRE PROCEDURES: USE WATER SPRAY TO COOL FIRE EXPOSED SURFACES AND TO PROTECT PERSONNEL. SHUT OFF FUEL TO FIRE. USE FOAM, DRY CHEMICAL OR WATER SPRAY TO EXTINGUISH FIRE.

Comment:

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR) FLAMMABLE LIMITS (LEL AND UEL): NA. HANDLING PRECAUTIONS/GENERAL HAZARDS: LOW HAZARD; LIQUIDS MAY BURN UPON HEATING TO TEMPERATURES AT OR ABOVE THE FLASH POINT. TOXIC GASES WILL FORM UPON COMBUSTION. DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS: SMOKE, CARBON MONOXIDE, CARBON DIOXIDE AND TRACES OF OXIDES OF SULFUR. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD INFORMATION: BASIS: RECOMMENDED BY MANUFACTURER. HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS): BASIS: RECOMMENDED BY MANUFACTURER.

6 ACCIDENTAL RELEASE MEASURES

Comment:

Spill or Leak Procedures: LAND SPILL: ELIMINATE SOURCES OF IGNITION. KEEP PUBLIC AWAY. PREVENT ADDITIONAL DISCHARGE OF MATERIAL. IF POSSIBLE TO DO SO WITHOUT HAZARD. PREVENT SPILLS FROM ENTERING SEWERS, WATERCOURSES OR LOW AREAS. CONTAIN SPILLED LIQUID WITH SAND OR EARTH. RECOVER BY PUMPING OR BY USING A SUITABLE ABSORBENT. CONSULT AN EXPERT OR DISPOSAL OF RECOVERED MATERIAL. ENSURE DISPOSAL IN COMPLIANCE WITH GOVERNMENT REQUIREMENTS AND ENSURE CONFORMITY TO LOCAL DISPOSAL REGULATIONS. NOTIFY THE APPROPRIATE AUTHORITIES IMMEDIATELY. TAKE ADDITIONAL ACTION NECESSARY TO PREVENT AND REMEDY THE ADVERSE EFFECTS OF THE SPILL. WATER SPILL: REMOVE FROM SURFACE BY SKIMMING OR WITH SUITABLE ABSORBENTS. IF ALLOWED BY LOCAL AUTHORITIES AND ENVIRONMENTAL AGENCIES, SINKING AND/OR SUITABLE DISPERSANTS MAY BE USED IN UNCONFINED WATERS. CONSULT AN EXPERT ON DISPOSAL OF RECOVERED MATERIAL. ENSURE DISPOSAL IN COMPLIANCE WITH GOVERNMENT REQUIREMENTS AND ENSURE CONFORMITY TO LOCAL DISPOSAL REGULATIONS. NOTIFY THE APPROPRIATE AUTHORITIES IMMEDIATELY. TAKE ALL ADDITIONAL ACTION NECESSARY TO PREVENT AND REMEDY THE ADVERSE EFFECTS OF THE SPILL.

7 HANDLING AND STORAGE

STORAGE

Additional Information on Storage Conditions:

Precautions to be Taken in Handling and Storage: 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, SPARKS, STATIC ELECTRICITY 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. ELECTROSTATIC ACCUMULATION HAZARD: NO, BUT USE PROPER GROUNDING PROCEDURE. STORAGE TEMPERATURE: NOT AVAILABLE. LOADING/UNLOADING TEMPERATURE: NOT AVAILABLE. STORAGE/TRANSPORT PRESSURE: NOT AVAILABLE. LOAD/UNLOADING VISCOSITY: NOT AVAILABLE. STORAGE AND HANDLING NOTES: KEEP CONTAINERS CLOSED. HANDLE AND OPEN CONTAINERS WITH CARE. STORE IN A COOL, WELL VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. IN KEEPING WITH GOOD PERSONAL HYGIENE PRACTICES, WASH HANDS THOROUGHLY AFTER HANDLING THE MATERIAL. DO NOT HANDLE OR STORE NEAR AN OPEN FLAME, SOURCES OF HEAT, OR SOURCES OF IGNITION.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Engineering Controls: THE USE OF LOCAL EXHAUST VENTILATION IS RECOMMENDED TO CONTROL EMISSIONS NEAR THE SOURCE. LABORATORY SAMPLES SHOULD BE HANDLED IN A FUMEHOOD. PROVIDE MECHANICAL VENTILATION OF CONFINED SPACES.

PERSONAL PROTECTIVE EQUIPMENT

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Personal Protective Equipment (PPE):

Eye Protection IN OPEN SYSTEMS WHERE CONTACT IS LIKELY, WEAR SAFETY GOGGLES. WHERE ONLY INCIDENTAL CONTACT IS LIKELY, WEAR SAFETY GLASSES WITH SIDE SHIELDS. NO OTHER SPECIAL PRECAUTIONS ARE NECESSARY PROVIDED EYE CONTACT IS AVOIDED.

Skin Protection IN OPEN SYSTEMS WHERE CONTACT IS LIKELY, WEAR CHEMICAL-RESISTANT OVERALLS. NO OTHER SPECIAL PRECAUTIONS ARE NECESSARY PROVIDED SKIN CONTACT IS AVOIDED.

Respiratory Protection WHERE CONCENTRATIONS IN AIR MAY EXCEED THE OCCUPATIONAL EXPOSURE LIMITS GIVEN AND WHERE ENGINEERING WORK PRACTICES OR OTHER MEANS OF EXPOSURE REDUCTION ARE NOT ADEQUATE, APPROVED RESPIRATORS MAY BE NECESSARY TO PREVENT OVEREXPOSURE BY INHALATION.

Hand Protection IN OPEN SYSTEMS WHERE CONTACT IS LIKELY, WEAR CHEMICALLY IMPERVIOUS GLOVES. NO OTHER SPECIAL PRECAUTIONS ARE NECESSARY PROVIDED SKINCONTACT IS AVOIDED. NEOPRENE OR NITRILE RUBBER GLOVES ARERECOMMENDED BY GENERAL MOTORS.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Physical State: Liquid.

Color: A PALE AMBER LIQUID.

Odor: PETROLEUM ODOR.

PHYSICAL PROPERTIES

pH Value:

Concentrate NOT AVAILABLE.

Changes of State:

Boiling Point	Range	230 - 600	C	
Boiling Point	Range	446 - 1112	F	
Melting/Freezing Point	=	-42	C	ASTM D97
Melting/Freezing Point	=	-43.6	F	ASTM D97
Pourpoint	=	-42	C	ASTM D97
Pourpoint	=	-43.6	F	ASTM D97

Vapor Pressure:

PSI AT F (C) (RVP).

Evaporation Rate:

< 0.1 N-BUTYL ACETATE = 1

Density:

Density = 0.88 g/cc Density Text:0.877 G/CC AT 15 DEGREES.

Specific Gravity:

= 0.877 AT 15 DEGREES

Solubility:

Water Solubility in Water Text:AT 1 ATM 77F (25C): NEGLIGIBLE.

Viscosity:

Viscosity 7 80 CST AT 212F (100C)

Comment:

THE DATA IS APPROXIMATE OR TYPICAL VALUES AND SHOULD NOT BE USED FOR PRECISE DESIGN PURPOSES. VOC = NOT APPLICABLE. CONGEALING POINT: -43.60 (F), -42.00 (C) ASTM D97.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Hazardous Polymerization:

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Hazardous Polymerization: None.

HAZARDOUS DECOMPOSITION

Comment:

Stability Text: THIS PRODUCT IS STABLE. INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: STRONG OXIDIZING AGENTS.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Comment:

Toxicological Data Unlimited Text: ACUTE TOXICITY DATA: THIS PRODUCT IS JUDGED TO HAVE AN ACUTE ORAL LD50 (RAT) GREATER THAN 5 G/KG OF BODY WEIGHT, AND AN ACUTE DERMAL LD50 (RABBIT) GREATER THAN 3.16 G/KG OF BODY WEIGHT.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

PLEASE CALL THE NON-EMERGENCY TELEPHONE NUMBER (416-441-7455) IF INFORMATION IS REQUIRED.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

PLEASE REFER TO SECTIONS, 5, 6 AND 15 FOR DISPOSAL AND REGULATORY INFORMATION.

14 TRANSPORT INFORMATION

DOT 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. U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION: TRANSPORTED BY HIGHWAY OR RAIL: BULK PACKAGING (CAPACITY GREATER THAN 119 GALLONS): NOT REGULATED. NON-BULK PACKAGING (CAPACITY LESS OR EQUAL TO 119 GALLONS): NOT REGULATED. TRANSPORTED BY AIR OR MARINE VESSEL: BULK AND NON-BULK PACKAGING: NOT REGULATED.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	1
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	1
NFPA Reactivity	0

NATIONAL REGULATIONS

Immediate Health: No

Delayed Health: No

Fire: No

Sudden Pressure Release: No

Reactive: No

Comment:

ALL COMPONENTS ARE LISTED ON THE UNITED STATES EPA TOXIC SUBSTANCES CONTROL ACT (TSCA) INVENTORY. CLEAN WATER ACT/OIL POLLUTION ACT: THIS PRODUCT MAY BE CLASSIFIED AS AN OIL UNDER SECTION 311 OF THE CLEAN WATER ACT, AND UNDER THE OIL POLLUTION ACT. DISCHARGES OR SPILLS INTO OR LEADING TO SURFACE WATERS THAT CAUSE A SHEEN MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER (1-800-424-8802). THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS ENVIRONMENTAL STATUTES. REPORTABLE QUANTITY (RQ): EPA REGULATION 40 CFR 302 (CERCLA SECTION 102): NOT APPLICABLE. THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355: (SARA SECTIONS 301-304): NO TOXIC CHEMICAL IS PRESENT GREATER THAN 1% OR 0.1% (CARCINOGEN). TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA SECTION 313): NO TOXIC CHEMICAL IS PRESENT GREATER THAN 1% OR 0.1% (CARCINOGEN). TOXIC SUBSTANCES CONTROL ACT: THIS PRODUCT DOES NOT CONTAIN ANY TSCA 12B REPORTABLE CHEMICAL SUBSTANCES.

16 OTHER INFORMATION

Additional Comments:

OSHA REQUIRED LABEL INFORMATION: IN COMPLIANCE WITH HAZARD AND RIGHT-TO-KNOW REQUIREMENTS, THE FOLLOWING OSHA HAZARD WARNINGS SHOULD BE FOUND ON THE LABEL, BILL OF LADING OR INVOICE

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ACCOMPANYING THIS SHIPMENT: NOTE; PRODUCT LABEL MAY CONTAIN NON-OSHA RELATED INFORMATION ALSO.
