MATERIAL SAFETY DATA SHEET

Wilwood Engineering

Product Name: WILWOOD HI-TEMP° 570 RACING BRAKE FLUID

Effective Date: 3 September 2014 Publication Date: 3 September 2014

1. **PRODUCT AND COMPANY IDENTIFICATION:**
   Trade Name:
   Wilwood Hi-Temp° 570 Racing Brake fluid
   DOT 3 brake fluid

   Company Identification:
   Wilwood Engineering
   4700 Calle Bolero
   Camarillo, CA 93012, USA

   Emergency Telephone Number:
   (805) 388-1188. Hours 7:30 am - 5:00 pm Monday - Friday PST
   After Hours, N/A

2. **HAZARDS IDENTIFICATION:**
   Emergency Overview:
   Color: Colorless to brown
   Physical State: Liquid.
   Odor: Mild
   Hazards of product: DANGER! Causes severe eye burns. Evacuate area.

   Potential Health Effects
   Eye Contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
   Skin Contact: Brief contact is essentially nonirritating to skin.
   Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
   Inhalation: Prolonged exposure is not expected to cause adverse effects. At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause adverse effects.
   Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Oral toxicity is expected to be greater in humans due to triethylene glycol even though tests in animals show a lower degree of toxicity. Oral toxicity is expected to be moderate in humans due to diethylene glycol even though tests with animals show a lower degree of toxicity.

4700 Calle Bolero ■ Camarillo, CA 93012 ■ Corporate 805/388-5434 ■ Sales 805/388-1188 ■ Fax 805/388-4938

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Effects of Repeated Exposure: Vapor from heated material or mist may cause respiratory irritation. In animals, effects have been reported on the following organs: Bladder. Blood. Gastrointestinal tract. Kidney. Liver. Nervous system. Respiratory tract.
Birth Defects/Developmental Effects: Triethylene glycol did not cause birth defects in animals; reduced fetal body weight effects were seen only at very high doses. Diethylene glycol has caused toxicity to the fetus and some birth defects at maternally toxic, high doses in animals. Other animal studies have not reproduced birth defects even at much higher doses that caused severe maternal toxicity.
Reproductive Effects: Diethylene glycol did not interfere with reproduction in animal studies except at very high doses.

3. **COMPOSITION INFORMATION:**

Component	CAS #	Amount
Triethylene glycol monobutyl ether	143-22-6	> 40.0 - < 60.0 %
Polyethylene glycol monobutyl ether	9004-77-7	> 1.0 - < 20.0 %
Poly(ethylene oxide)	25322-68-3	< 15.0 %
Triethylene glycol monomethyl ether	112-35-6	< 15.0 %
Tetraethylene glycol	112-60-7	< 15.0 %
Triethylene glycol	112-27-6	< 10.0 %
Diethylene glycol monobutyl ether	112-34-5	< 10.0 %
Polyethylene glycol monomethyl ether	9004-74-4	< 10.0 %
Diethylene glycol	111-46-6	< 5.0 %
Pentaethylene glycol	4792-15-8	< 10.0 %
Sodium phosphate	7601-54-9	< 5.0 %
Diisopropanolamine	110-97-4	< 1.0 %
Sodium hydroxide	1310-73-2	< 1.0 %

4 **FIRST AID MEASURES:**
Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first five minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.
Skin Contact: Wash skin with plenty of water.
Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.
Ingestion: Do not induce vomiting. Seek medical attention immediately. If person is fully conscious give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 Cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp.) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight [e.g., 1.2 ounce (2 1/3 tbsp.) for a 40 pound child or 36 ml for an 18 kg child].

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Notes to Physician: Due to structural analogy and clinical data, this material may have a mechanism of intoxication similar to ethylene glycol. On that basis, treatment similar to ethylene glycol intoxication may be of benefit. In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Maintain adequate ventilation and oxygenation of the patient. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient**.**

5. **FIRE FIGHTING MEASURES:**

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

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Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Combustion products may include trace amounts of: Nitrogen oxides.

6. **ACCIDENTAL RELEASE MEASURES:**

Steps to be Taken if Material is Released or Spilled: Small spills: Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers.
Ignition Sources Removal: Not applicable.
Dust Control: Not applicable.
Personal Precautions: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Evacuate area.
Inhalation, Skin, Mucous and Eye Contact Prevention: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. **HANDLING AND STORAGE:**

General Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid breathing mist. Keep container closed.
Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.
Storage: Store in the following material(s): Carbon steel. Stainless steel. Phenolic lined steel drums. Do not store in: Aluminum. Copper. Galvanized iron. Galvanized steel.
Shelf life: Use within 24 Months
Storage temperature: 10 - 35° C

8 **EXPOSURE CONTROLS / PERSONAL PROTECTION:**

Exposure limits

Component	List	Type	Value
Diethylene glycol	WEEL	TWA	10 mg/m3
Poly(ethylene oxide)	WEEL	TWA Particulate	10 mg/m3
Triethylene glycol	Dow IHG	TWA Total	100 mg/m3
Diethylene glycol monobutyl ether	Dow IHG	TWA	35 ppm
Diisopropanolamine	Dow IHG	TWA	10 ppm
Pentaethylene glycol	WEEL	TWA Particulate	10 mg/m3

Personal Protection:

Eye/Face Protection: Use chemical goggles. Eye wash fountain should be located in immediate work area.

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Skin Protection: No precautions other than clean body-covering clothing should be needed.
Hand protection: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.
Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. For most conditions, no respiratory protection should be needed; however, if handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate prefilter.
Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls
Ventilation: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

9. **PHYSICAL AND CHEMICAL PROPERTIES:**

Physical State:	Liquid
Color:	Colorless to brown
Odor:	Mild
Flash Point - Closed Cup:	143.3° C ASTM D93
Flammable Limits In Air	Lower: Not determined Upper: Not determined
Autoignition Temperature:	Not determined
Vapor Pressure:	< 0.01 mmHg @ 20° C Literature
Boiling Point (760 mmHg):	284 °C ASTM E1719 . 260° C FMVSS 116 Equilibrium Reflux Boiling Point, dry. 145 °C FMVSS 116 Equilibrium Reflux Boiling Point, wet.
Vapor Density (air = 1):	7 Estimated.
Specific Gravity (H2O = 1):	1.010 - 1.040 20° C/20° C ASTM D4052
Freezing Point:	-47° C Literature
Melting Point:	Not applicable to liquids
Solubility in water (by weight):	100 % Estimated.
pH:	7.0 - 11.5 FMVSS 116
Decomposition:	No test data available
Temperature:	
Kinematic Viscosity:	2.0 cSt @ 100° C FMVSS 116

10. **STABILITY AND REACTIVITY:**
Stability/Instability
Stable under recommended storage conditions. See Storage, Section 7.
Conditions to Avoid: Do not distill to dryness. Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials: Avoid contact with: Strong acids. Strong oxidizers.

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Hazardous Polymerization
Will not occur.

Thermal Decomposition
Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids.

11. **TOXICOLOGICAL INFORMATION:**

Acute Toxicity
Ingestion - For some component(s): LD50, Rat > 5,660 mg/kg. Diethylene glycol. Lethal Dose, Human, adult 65 ml
Skin Absorption - Based on information for component(s): LD50, Rabbit > 3,480 mg/kg
Repeated Dose Toxicity - Vapor from heated material or mist may cause respiratory irritation. In animals, effects have been reported on the following organs: Bladder. Blood. Gastrointestinal tract. Kidney. Liver. Nervous system. Respiratory tract.
Chronic Toxicity and Carcinogenicity - Did not cause cancer in laboratory animals. Diethylene glycol has been tested for carcinogenicity in animal studies and is not believed to pose a carcinogenic risk to man.
Developmental Toxicity - Triethylene glycol did not cause birth defects in animals; reduced fetal body weight effects were seen only at very high doses. Diethylene glycol has caused toxicity to the fetus and some birth defects at maternally toxic, high doses in animals. Other animal studies have not reproduced birth defects even at much higher doses that caused severe maternal toxicity.
Reproductive Toxicity - Diethylene glycol did not interfere with reproduction in animal studies except at very high doses. In animal studies, did not interfere with reproduction.
Genetic Toxicology - In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. **ECOLOGICAL INFORMATION:**

ENVIRONMENTAL FATE
Data for Component: **Triethylene glycol monobutyl ether**
Movement and Partitioning
Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).
Henry's Law Constant (H): 6.79E-10 atm*m3/mole; 25° C Estimated.
Partition coefficient, n-octanol/water (log Pow): 0.02 Estimated.
Partition coefficient, soil organic carbon/water (Koc): 10 Estimated.

Persistence and Degradability
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

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OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
88 - 92 %	28 d	OECD 301E Test
100 %	28 d	OECD 302B Test

Theoretical Oxygen Demand: 2.10 mg/mg

Data for Component: **Poly(ethylene oxide)**

Movement and Partitioning

For this family of materials: Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. No bioconcentration is expected because of the relatively high water solubility.

Persistence and Degradability

For this family of materials: Material is expected to be readily biodegradable.

Biological oxygen demand (BOD): For this family of materials:

BOD 5	BOD 10	BOD 20	BOD 28
0 - 17 %	3 - 38 %	39 - 70 %	

Theoretical Oxygen Demand: 1.64 - 1.74 mg/mg

Data for Component: **Triethylene glycol monomethyl ether**

Movement and Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

Henry's Law Constant (H): 2.66E-09 atm*m3/mole; 25° C Estimated.

Partition coefficient, n-octanol/water (log Pow): -1.46 Estimated.

Partition coefficient, soil organic carbon/water (Koc): 10 Estimated.

Persistence and Degradability

Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%). Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
4.00E-11 cm3/s	3.2 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
99 %	28 d	OECD 302B Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
29 %	33 %	71 %	

Theoretical Oxygen Demand: 1.75 mg/mg

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Data for Component: **Tetraethylene glycol**

Movement and Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

Henry's Law Constant (H): 3.5E-11 atm*m3/mole; 25° C Estimated.

Partition coefficient, n-octanol/water (log Pow): -2.02 Estimated.

Partition coefficient, soil organic carbon/water (Koc): 10 Estimated.

Bioconcentration Factor (BCF): 3.2; Estimated.

Persistence and Degradability

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
5.04E-11 cm3/s	2.55 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
40 %	28 d	OECD 301D Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
< 2.5 %	3 %	43 %	

Theoretical Oxygen Demand: 1.65 mg/mg

Data for Component: **Triethylene glycol**

Movement and Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

Henry's Law Constant (H): 4.37E-10 atm*m3/mole; 25° C Estimated.

Partition coefficient, n-octanol/water (log Pow): -1.75 Estimated.

Partition coefficient, soil organic carbon/water (Koc): 10 Estimated.

Persistence and Degradability

Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability). Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
3.64E-11 cm3/s	3.5 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
25 - 92 %	28 d	OECD 301C Test
> 70 - 95 %	2 - 14 d	OECD 302B Test

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Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
12 - 32 %	15 - 64 %	17 - 86 %	

Theoretical Oxygen Demand: 1.60 mg/mg

Data for Component: **Diethylene glycol monobutyl ether**

Movement and Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

Henry's Law Constant (H): 1.52E-09 atm*m3/mole; 25° C Estimated.

Partition coefficient, n-octanol/water (log Pow): 0.56 Measured

Partition coefficient, soil organic carbon/water (Koc): 2 Estimated.

Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
3.62E-11 cm3/s	11 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
89 - 93 %	28 d	OECD 301C Test
100 %	28 d	OECD 302B Test

Theoretical Oxygen Demand: 2.17 mg/mg

Data for Component: **Polyethylene glycol monomethyl ether**

Movement and Partitioning

For this family of materials: No bioconcentration is expected because of the relatively high water solubility.

Persistence and Degradability

For this family of materials: Biodegradation under aerobic static laboratory conditions is low (BOD20 or BOD28/ThOD between 2.5 and 10%).

Data for Component: **Diethylene glycol**

Movement and Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Henry's Law Constant (H): 7.96E-10 atm*m3/mole; 25° C Estimated.

Partition coefficient, n-octanol/water (log Pow): -1.47 Estimated.

Partition coefficient, soil organic carbon/water (Koc): < 1 Estimated.

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Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
2.23E-11 cm3/s	5.7 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
92 %	28 d	OECD 301C Test
82 - 98 %	28 d	OECD 302C Test

Theoretical Oxygen Demand: 1.51 mg/mg

Data for Component: **Pentaethylene glycol**

Movement and Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Henry's Law Constant (H): < 2.54E-11 atm*m3/mole; 25° C Estimated.

Partition coefficient, n-octanol/water (log Pow): -2.30 Estimated.

Partition coefficient, soil organic carbon/water (Koc): 10 Estimated.

Persistence and Degradability

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
6.44E-11 cm3/s	2 h	Estimated

Theoretical Oxygen Demand: 1.68 mg/mg

Data for Component: **Diisopropanolamine**

Movement and Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Henry's Law Constant (H): 2.52E-11 atm*m3/mole; 25° C Estimated from vapor pressure and water solubility.

Partition coefficient, n-octanol/water (log Pow): -0.82 Measured

Partition coefficient, soil organic carbon/water (Koc): 1 Estimated.

Distribution in Environment: Mackay Level 1 Fugacity Model:

Air	Water	Biota	Soil	Sediment
> 1 %	> 99 %	0 %	0 %	0 %

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Persistence and Degradability
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.0169E-10 cm3/s	0.105 d	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
94 %`	28 d	OECD 301F Test
90 - 100 %	7 d	OECD 302B Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
3 %	60 %	91 %	

Chemical Oxygen Demand: 1.86 mg/mg
Theoretical Oxygen Demand: 2.41 mg/mg

Data for Component: **Sodium hydroxide**
Movement and Partitioning
No bioconcentration is expected because of the relatively high water solubility. Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient, n-octanol/water (log Pow): -3.88 Estimated.
Partition coefficient, soil organic carbon/water (Koc): 14 Estimated.

Persistence and Degradability
Biodegradation is not applicable.

ECOTOXICITY
Data for Component: **Triethylene glycol monobutyl ether**
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute and Prolonged Toxicity
LC50, emerald shiner (Notropis atherinoides), 72 h: > 500 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, static, 48 h, immobilization: > 500 - 6,600 mg/l
Aquatic Plant Toxicity
EC50, alga Scenedesmus sp., biomass growth inhibition, 72 h: > 500 mg/l
Toxicity to Micro-organisms
IC50; bacteria, 16 h: 8,000 mg/l

Data for Component: **Poly(ethylene oxide)**
For this family of materials: Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

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Data for Component: **Triethylene glycol monomethyl ether**
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute and Prolonged Toxicity
LC50, fathead minnow (Pimephales promelas): > 10,000 mg/l
Aquatic Invertebrate Acute Toxicity
LC50, water flea Daphnia magna, 48 h: > 10,000 mg/l
Aquatic Plant Toxicity
EC50, alga Scenedesmus sp., biomass growth inhibition, 72 h: > 500 mg/l
Toxicity to Micro-organisms
EC50; bacteria, Growth inhibition (cell density reduction), 16 h: > 5,000 mg/l

Data for Component: **Tetraethylene glycol**
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute and Prolonged Toxicity
LC50, rainbow trout (Oncorhynchus mykiss): > 1,000 mg/l
Aquatic Invertebrate Acute Toxicity
LC50, water flea Daphnia magna: 7,746 mg/l
Aquatic Plant Toxicity
EC50, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrum capricornutum), biomass growth inhibition: > 1,000 mg/l
Toxicity to Micro-organisms
EC50; bacteria, Growth inhibition (cell density reduction): 7,500 mg/l

Data for Component: Triethylene glycol
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute and Prolonged Toxicity
LC50, bluegill (Lepomis macrochirus), 96 h: 61,000 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, 48 h: 49,000 mg/l
Toxicity to Micro-organisms
EC50; bacteria, Growth inhibition (cell density reduction), 16 h: > 10,000 mg/l
Aquatic Invertebrates Chronic Toxicity Value:

ChV Value mg/l	Species	Test Type	Endpoint	Exposure Time
10607 mg/l	water flea Daphnia magna	static renewal	growth	21 d

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Data for Component: **Diethylene glycol monobutyl ether**
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute and Prolonged Toxicity
LC50, bluegill (Lepomis macrochirus): 1,300 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, immobilization: 3,200 mg/l
Toxicity to Micro-organisms
EC50; bacteria, Growth inhibition: 255 mg/l

Data for Component: **Polyethylene glycol monomethyl ether**
For this family of materials: Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute and Prolonged Toxicity
For this family of materials: LC50, fathead minnow (Pimephales promelas), 96 h: > 10,000 mg/l
Aquatic Invertebrate Acute Toxicity
For this family of materials: LC50, water flea Daphnia magna, 48 h: > 10,000 mg/l

Data for Component: **Diethylene glycol**
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute and Prolonged Toxicity
LC50, rainbow trout (Oncorhynchus mykiss), 96 h: > 1,000 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, 48 h, immobilization: 48,900 mg/l
Aquatic Plant Toxicity
EC50, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrumcapricornutum), biomass growth inhibition, 7 d: > 100 mg/l
Toxicity to Micro-organisms
IC50, OECD 209 Test; activated sludge, respiration inhibition, 3 h: > 1,000 mg/l

Data for Component: Diisopropanolamine
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute and Prolonged Toxicity
LC50, fathead minnow (Pimephales promelas), static, 96 h: 580 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, 48 h, immobilization: 277.7 mg/l
Aquatic Plant Toxicity
EC50, alga Scenedesmus sp., 72 h: 270 mg/l
Toxicity to Micro-organisms
EC50; activated sludge, respiration inhibition, 30 min: > 1,995 mg/l

Product Name: WILWOOD HI-TEMP° 570 RACING BRAKE FLUID

Data for Component: **Sodium hydroxide**
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested). May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

Fish Acute and Prolonged Toxicity
LC50, rainbow trout (Oncorhynchus mykiss), 96 h: 45.5 mg/l
Aquatic Invertebrate Acute Toxicity
LC50, water flea Daphnia magna: 40 - 240 mg/l

13. **DISPOSAL CONSIDERATIONS:**
DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re- use containers for any purpose.

14. **TRANSPORT INFORMATION:**
ROAD AND RAIL Non-Bulk
NOT REGULATED

ROAD AND RAIL Bulk
NOT REGULATED

IMDG
NOT REGULATED

ICAO/IATA
NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Product Name: WILWOOD HI-TEMP° 570 RACING BRAKE FLUID

15. **REGULATORY INFORMATION:**

Safety, health and environmental regulations / legislation specific to the substance or mixture.

Thailand: Hazardous Substance Act, B.E. 2535

This product does not contain substances listed in Thai Hazardous Substances Act.

Thailand: Notification of Ministry of Interior (Occupational Health and Safety in Chemical).

One or more components of this product are listed.

16. **OTHER INFORMATION**

Hazard Rating System

NFPA	Health	Fire	Reactivity
	1	1	0

Recommended Uses and Restrictions

Brake fluid formulations.

Revisions

Because of the major changes, this data sheet should be read as entirely new (rev B 9/3/14).

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation

NOTICE:

The information herein is presented in good faith and believed to be accurate as of the effective date shown on the first page of this document. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

Product Name: WILWOOD HI-TEMP° 570 RACING BRAKE FLUID

U.S. REGULATIONS:

SARA HAZARD CATEGORY:

This product has been reviewed according to the EPA “Hazard Categories” promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title 111) and is considered, under application definitions, to meet the following categories:

An immediate health hazard.