SAFETY DATA SHEET

Wilwood Engineering

Product Name: WILWOOD HI-TEMP 570 RACING BRAKE FLUID

Effective Date: 3 December 2021 Publication Date: 3 December 2021

1. PRODUCT AND COMPANY IDENTIFICATION:

Trade Name: Hi-Temp 570 Racing Brake Fluid DOT 5.1 Hydraulic Brake Fluid

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

CAS: Not applicable (Mixture)
Synonyms: Glycol-Based Brake Fluid
Restrictions: Do not use where DOT 5 is specified
Emergency Telephone Number:
Wilwood: (805) 388-1188 (Hours 7:30 am - 5:00 pm Monday-Friday) PST

2. HAZARDS IDENTIFICATION:

Emergency Overview:
Color: Clear to amber
Odor: Mild
Classification(s): Acute Toxicity, Oral Category 4
Skin Irritation, Category 2
Serious Eye Damage, Category 1
Target Organ Toxicity, Acute Category 2

Signal Word: DANGER!

Hazards of product: Causes serious eye damage. Harmful if swallowed. Causes mild skin irritation. May cause damage to kidneys, liver or central nervous system if ingested.

Other Hazard(s): Combustible liquid. Repeated exposure may cause dryness of the skin. Vapors may cause respiratory irritation.

Precaution(s): Wear eye and skin protection before handling. Do not breathe mist/vapors/spray. Use in a well ventilated area. Wear protective gloves/protective clothing. Do no ingest. IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Disposal: Keep out of waterways. Check local, national, and international regulations for proper disposal.

3. COMPOSITION INFORMATION:

Component	CAS #	Amount
Triethylene Glycol Monomethyl Borate Ester	30989-05-0	60 – 80%
Butoxytriglycol	143-22-6	10 – 20%
Triethylene Glycol Monomethyl Ether	112-35-6	10 – 20%
Diethylene Glycol Monomethyl Ether	111-77-3	0 – 5%
Additives	Proprietary	< 2%

4 FIRST AID MEASURES:

Eye Contact: Remove contact lenses, if worn. Rinse with running water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.

Skin Contact: Remove affected clothing and launder before reuse. Wash affected area for at least 15 minutes with soap and running water. Prolonged or repeated exposure may cause defatting of the skin – symptoms include redness, dryness, cracking.

Inhalation: Remove exposed person to fresh air immediately. Restore or assist breathing, if necessary. Get medical attention if symptoms of CNS depression or intoxication develop.

Ingestion: Do NOT induce vomiting. If conscious, give two full glasses of water. If a significant volume has been swallowed, get medical attention immediately. Swallowing large amounts of diethylene glycol is potentially lethal. Immediate symptoms may include severe abdominal cramping, diarrhea, vomiting, intoxication, and hypertension. Infrequent urination and other cardiac, neurological, and renal effects of metabolic acidosis, hyponatremia, or hyperkalemia may develop. Diethylene glycol has been known to cause metabolic acidosis leading to kidney and liver failure, neurological complications, and death.

Note to Physician: Treat for diethylene glycol poisoning

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5. FIRE FIGHTING MEASURES:

NFPA (estimated): Health – 2 Fire – 1 Instability – 0
Flash Point: > 121°C / 250°F (based on most flammable component)
Extinguishing Media: For small fires use alcohol foam, dry chemical or CO_2. For large fires apply large (flooding) quantities of water from as far away as possible in a spray or mist.
Unsuitable Media: Water jet may be ineffective
Firefighting Procedures: Wear a self-container breathing apparatus if necessary based on concentrations of smoke. Material will produce primarily oxides of carbon as combustion products.
Unusual Hazards: Not Determined

6. ACCIDENTAL RELEASE MEASURES:

Methods for Removal: Use pump to remove bulk liquid. Residual liquid can be absorbed on inert material. Dispose of contaminated adsorbent as hazardous waste. Wash the area with water after excess product and adsorbent is removed.
Personal Precautions: Ventilate if released in a confined area. Avoid breathing mists/vapors/spray. Product may present slipping hazard if left on the floor. Beware of vapors pooling in low areas to explosive concentrations.
Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

7. HANDLING AND STORAGE:

Max. Handling Temp: Not determined

Procedures: Use in a well ventilated area. Avoid breathing mists/vapors/spray. Avoid handling hot product where possible. Use appropriate personal protective equipment to avoid contact with skin and eyes. Note the location of nearest emergency shower and eye wash station before use. Store with the lid tightly closed in a cool, dry, well-ventilated place. Product is hygroscopic and effectiveness may diminish if opened product is stored for long periods of time. Dispose of spilled or used material in accordance with local, regional, national, and international regulations.
Max Store Temp: Do not store or handle at elevated temperatures.

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8 EXPOSURE CONTROLS / PERSONAL PROTECTION:

Exposure limits:

Component	CAS#	Type	Value
Diethylene glycol	111-46-6	OSHA TWA	10 mg/m3

Other Exposure Limits: Not Determined

Engineering Controls: Use in a well ventilated area. Local and general ventilation should keep methanol vapor concentration below permissible limits. Where exposure potential exceeds recommended limits, use a NIOSH/OSHA approved supplied air respirator as recommended. Vapors are heavier than air and will tend to accumulate in low-lying areas.

Personal Protective Equipment

Eye/Face Protection: Use tightly-fitting chemical splash goggles. Use face shield, especially where splashing is likely to occur

Gloves: Use nitrile, butyl, viton, or fluoroelastemer gloves. Even appropriate materials may degrade after prolonged exposure with product.

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: Use a NIOSH or CEN approved full-face respirator with multi-purpose combination or type ABEK respirator cartridges as a backup to engineering controls. If the respiratory is the only means of protection, use a full-face supplied air respirator

Clothing: Use chemical resistant pants and jackets, preferably of butyl or nitrile rubber

Other: Locate the nearest eyewash station and safety shower before handling this product. Limit exposure whenever possible.

Hygiene: Wash thoroughly after handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	Clear, pale yellow liquid
Odor	Mild, sweet odor
Odor threshold	Not determined
pH	7 - 11
Flash Point	121°C / 250°F
Evaporation Rate	Not determined
Upper Flammable Lm	Not determined
Lower Flammable Lm	Not determined
Explosive Data	Vapors may form explosive mixtures with air
Vapor Pressure	0.09 hPa (0.07 mmHg) @ 20° (68°F)
Vapor Density	> 5 (Air = 1)
Volatile Organics	Not determined

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Density	1.06 mg/cu. cm @15.6°C
Solubility	Miscible in water, alcohol; sparingly soluble in some organic solvents
K_{ow}	Not determined
Viscosity	2 mm/s^2 @ 100°C
Autoignition Point	310°C / 590°F
Decomposition Temp	Not determined

10. **STABILITY AND REACTIVITY:**

Stability: Material is normally stable at ambient temperatures and pressures.
Decomposition Temp: Not determined
Incompatibility: Keep away from strong oxidizers and strong acids/bases. Keep away from strong reducing agents such as powdered active metals
Polymerization Will not occur
Thermal Decomposition: Primarily oxidizes to carbon dioxide in normal combustion conditions. In lower oxygen environments carbon monoxide, formaldehyde, or formic acid may be formed.
Conditions to Avoid: Vapors may catch fire – keep away from strong oxidizers, acids, bases as well as heat/sparks/open flames/hot surfaces

11. **TOXICOLOGICAL INFORMATION:**

- Acute Toxicity -

Skin Absorption: Expected to be mildly irritating to the skin. Symptoms of irritation may include redness, drying, and cracking of the skin.
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. Gastrointestinaltract. Kidney. Liver. Nervous system. Respiratory tract.
Inhalation Toxicity: Toxicity is similar to that for oral ingestion, though this exposure mode is far less likely to occur.
Oral Toxicity: Toxic or fatal if ingested. Symptoms of diethylene glycol poisoning include severe abdominal cramping, diarrhea, vomiting, sweating, confusion, cardiac abnormalities, neurological abnormalities, infrequent urination, intoxication or CNS depression. If left untreated, product will metabolize to cause metabolic acidosis, renal failure, hyperkalemia, hyponatremia, parylsis, cardiac failure, or death. Seek medical attention immediately for poisoning. If ingested, DO NOT wait for symptoms to develop before getting treatment.

- Chronic Exposure -

Chronic Toxicity: This product may cause dryness or defatting of the skin, dermatitis, or may aggravate existing skin conditions.
Carcinogenicity: This product and its components are NOT listed by the IARC, NTP, ACGIH, or OSHA as carcinogens
Mutagenicity: Available information does not suggest that this product is a germ cell

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mutagen

Reproductive Toxicity: Components of this product are considered reproductive toxins by ECHA.

Teratogenicity: Diethylene glycol has produced birth defects in rats at concentrations that are toxic to the mother.

- Additional Information –

Target organ toxicity: Product is toxic to organs: Kidneys, liver, central nervous system, heart. Metabolic products of diethylene glycol produce acidosis and organ toxicity effects. In some cases, other metabolic abnormalities have been reported such as hyponatremia and hyperkalemia leading to nerve and cardiac damage.

Synergistic effects: Though specific data is not available, ethanol is a competing substrate for NAD-dependent alcohol dehydrogenase and may slow the production of harmful metabolic products of diethylene glycol.

Pharmacokinetics: No data available

12. ECOLOGICAL INFORMATION:

- Environmental Toxicity –

Freshwater Fish	Acute LD50 > 590 mg/L (96h)
Freshwater Invertebrates	Acute LD50 > 10g/l (48h)
Algae	Not determined
Saltwater Fish	Not determined
Saltwater Invertebrates	Not determined
Bacteria	Not determined
Miscellaneous	Not determined

- Environmental Fate –

Biodegradation	No data available. Expected to biodegrade rapidly and degrade by photo-oxidative reactions with the air
Bioaccumulation	Product is very mobile in soil and water and is somewhat volatile – it is not expected to bioaccumulate.
Soil Mobility	Product has high mobility in soil, slowly evaporates at environmentally relevant temperatures
Other Effects	Not determined

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.
Store material for disposal as indicated in Section 7.

Contaminated Containers or Packaging: Empty containers are likely to contain flammable vapors or explosive mixtures of vapor and air. Do NOT weld, cut, or grind empty containers. Rinse empty containers with water and dispose of in accordance with local, regional, national, and international regulations

14. **TRANSPORT INFORMATION:**

Description shown may not apply to all shipping situations. Consult applicable shipping codes to determine any additional shipping requirements

US DOT	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

15. **REGULATORY INFORMATION:**

- Global Chemical Inventories/Regulations –

USA:	All components of this material are on the US TSCA
Other TSCA Reg.:	None known
EU:	Components of this product and similar mixtures are registered under REACH. Consult the European Chemicals Agency regarding REACH registration, reporting, and other legal requirements before importing to the EU.
New Zealand:	May require notification before sale under New Zealand Regulations
Canada:	All components of this product are listed on the Canadian Domestic Substances List (DSL).
Canada WHMIS:	B3

- Other U.S. Federal Regulations –

SARA Ext. Haz. Subst.: No components listed as Extremely Hazardous Substances list. See 40 CFR 355

SARA Sect. 313: Triethylene glycol monomethyl ether (CAS # 143-22-6), triethylene glycol monomethyl ether (CAS # 112-35-6), nitrate compounds (EPA ID # N511) and diethanolamine (CAS # 111-42-2) are subject to reporting under SARA Title III, Section 313. See 40 CFR 372

SARA 311/312 Class:	*Acute Hazard*	- YES
	Chronic Hazard	- YES
	Fire Hazard	- YES

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Reactivity Hazard - NO

CERCLA Haz. Sub.: No components listed. See 40 CFR 302

- State Regulations –

CA Prop 65: WARNING: This product contains diethanolamine known to the State of California to cause cancer and, ethylene glycol monomethyl ether, which is known to the State of California to cause birth defects or other reproductive harm

Right to Know Component	***Right to Know States***
Triethylene glycol monobutyl ether (CAS # 143-22-6)	NJ, PA
Triethylene glycol monomethyl borate ester (CAS # 71243-41-9)	NJ, PA
Triethylene glycol monomethyl ether (CAS # 112-35-6)	NJ, PA
Tetraethylene glycol (CAS # 112-60-7)	NJ, PA
Diethylene glycol (CAS # 111-46-6)	NJ, PA
Diethanolamine (CAS # 111-42-2)	NJ
Nitrate Compounds (EPA ID # N511)	NJ, RI, PA

16. **OTHER INFORMATION**

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).
Changed document title from MSDS to SDS (Rev C 6/13/19).
Last update Rev. D (Effective date: 12/3/21)

Disclaimer:

The information herein is presented in good faith and believed to be accurate as of the effectivedate 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 Safety Data Sheet for health and safety information.

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