

MASTER® SAFETY DATA SHEET

1. Product Identification

Master Products
4635 Willow Drive
Medina, MN 55340
(612) 478-2360

Product line: MASTER® Silicone DOT 5 Brake Fluid
Products: DS12, DS32
CAS: Not applicable (Mixture)
Synonyms: Polydimethylsiloxane hydraulic fluid
Recommended use: Disk and drum hydraulic brake fluid
Restrictions: Do not use where DOT5 is specified
Created: 14 June 2013
Revised: 26 March 2015
Emergency phone: CHEMTREC: (+1) 800-424-9300

2. Hazards Identification

Appearance: Purple liquid
Odor: Mild
Classification(s): Skin Irritation, Category 3
Carcinogenicity, Category 2
Aquatic Toxicity, Acute Category 3
Target organs: None
Symbol(s):



Signal Word: **Warning**
Hazard Statement(s): (H315) Causes mild skin irritation. (H351) Suspected of causing cancer. (H402) Harmful to aquatic life.

Other hazard(s): Mildly irritating to the eyes and skin. Respiratory exposure is likely to cause irritation.

- Precaution(s):** Wear eye and skin protection before handling. Do not breathe mist/vapors/spray. Wear protective gloves/protective clothing. IF IN EYES: Flush with water for 15 minutes and consult a physician. Do not 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
- HMIS (estimated):** **Health – 2** **Fire – 1** **Instability – 0**

3. Composition/Information on Ingredients

Hazardous Ingredients:

<i>Component</i>	<i>CAS No.</i>	<i>Conc (wt%)</i>
Polydimethylsiloxane	63148-62-9	90 – 100
Tributylphosphate	126-73-8	1 – 5
Additives	Proprietary	< 1

4. First Aid Measures

- Eyes** Remove contact lenses, if worn. Rinse with running water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.
- Skin** Remove affected clothing and launder before reuse. Wash affected area for at least 15 minutes with soap and running water. If irritation occurs, consult a physician
- Inhalation** Inhalation is unlikely. If mists or sprays are inhaled, move victim to fresh air. If breathing is difficult, give artificial respiration and consult a physician.
- Ingestion** Do NOT induce vomiting. If a significant volume has been swallowed, consult a physician.
- Additional Info** Not determined
- Specific Treatments** Not determined. Treat symptomatically

5. Fire Fighting Measures

- NFPA (estimated):** **Health – 2** **Fire – 1** **Instability – 0**

- Flash Point** > 120°C / 248°F (calculated)
- Extinguishing Media** For small fires use dry chemical or CO₂. For large fires apply large (flooding) quantities of water from as far away as possible in a spray or mist, or use dry chemical or CO₂.
- Unsuitable Media** Not determined
- Firefighting Procedures:** Wear a self-container breathing apparatus if necessary based on concentrations of smoke. Evacuate in accordance with emergency planning. Use water spray to keep containers cool
- Unusual Hazards** Not Determined

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:

Ventilate if released in a confined area. Avoid breathing mists/vapors/spray. Product may present slipping hazard if left on the floor.

Environmental precautions: Avoid release to the environment. Prevent from entering into soil, ditches, sewers, waterways or groundwater

Methods for removal: Use a fluid 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.

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. Do not store near oxidizers. 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.

8. Exposure Controls/Personal Protection

Exposure Limits

US

Guidelines by component

Tributylphosphate

OSHA TWA: 0.2ppm

ACGIH TWA: 0.2ppm

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.

Personal Protective Equipment

Respiratory:

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

Eye:

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.

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

Purple liquid

Odor

Mild

Odor threshold

Not determined

pH	Not determined
Melting Point	Not determined
Initial Boiling Pt	> 260°C / 500°F
Flash Point	> 120°C / 248°F
Evaporation Rate	Not determined
Upper Flammable Lm	Not determined
Lower Flammable Lm	Not determined
Explosive Data	Not determined
Vapor Pressure	Not determined
Vapor Density	Not determined
Volatile Organics	Not determined
Density	0.985 mg/cu. cm @25.0°C
Solubility	Insoluble in water and organic solvents
K_{ow}	Not determined
Viscosity	42.7 mm/s ² @ 40°C
Autoignition Point	Not determined
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 bases.
Polymerization	Will not occur
Thermal Decomposition	Primarily oxidizes to carbon dioxide and silicon dioxide in normal combustion conditions. In lower oxygen environments carbon monoxide, formaldehyde, or formic acid may be formed.
Conditions to Avoid	Keep away from strong oxidizers as reaction may occur

11. Toxicological Information

- Acute Exposure -

Eye Irritation	May cause mild to moderate irritation of the eye if exposed to liquid or in high vapor concentrations. May cause irritation, tearing, or burning of the eyes.
Skin Irritation	Expected to be mildly irritating to the skin. Symptoms of irritation may include redness, drying, and cracking of the skin.
Respiratory Irritation	High vapor concentrations may cause transient irritation to the respiratory system.
Dermal Toxicity	This product can be absorbed through the skin. Limit exposure to skin where possible.
Inhalation Toxicity	Toxicity is similar to that for oral ingestion, though this exposure mode is far less likely to occur.

Oral Toxicity	Low order of toxicity, not expected to cause injury under normal exposure conditions.
Aspiration Hazard	This product is of low risk for aspiration due to viscosity. Do NOT induce vomiting, as this increases risk of aspiration.
- 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. Tributylphosphate in this product has been found tumorigenic in rats and mice (oral exposure) by RTECS criteria (Kidney, Ureter, Bladder, Liver).
Mutagenicity	No data available
Reproductive Toxicity	Not likely based on exposure to product. Tributylphosphate in this product has been linked to growth abnormalities in newborn rats (oral)
Teratogenicity	Not likely based on exposure to product. Tributylphosphate in this product has been linked to fetotoxicity in rats (oral)
- Additional Information -	
Target organ toxicity	Product is does not exhibit specific organ toxicity. Tributylphosphate in this product has been linked to tumors of the bladder, kidney, ureter, and liver in rats and mice.
Synergistic effects	No data available
Pharmacokinetics	No data available

12. Ecological Information

- Environmental Toxicity -	
Freshwater Fish	Acute LC50 > 170 mg/L (96h, goldfish)
Freshwater Invertebrates	Acute EC50 > 70mg/l (48h, water flea)
Algae	Acute EC50 > 20mg/l (72h, green algae)
Saltwater Fish	Not determined
Saltwater Invertebrates	Not determined
Bacteria	Not determined
Miscellaneous	Not determined

- Environmental Fate -	
Biodegradation	No data available. Expected to have little to no biodegradation potential and likely to degrade primarily through photochemical oxidation
Bioaccumulation	Product adheres to soil and is unlikely to be absorbed by organisms. Tributylphosphate in this product has an BCF of 21 – 35.
Soil Mobility	Product tightly adsorbs to soil, slowly evaporates and oxidizes at environmentally relevant temperatures

Other Effects Not determined

13. Disposal Considerations

Disposal Considerations

All disposal practices must be in accordance with local, regional, national, and international regulations. Store material for disposal as indicated in Section 7. Disposal by controlled incineration or by secure land fill may be acceptable – review applicable regulations or regulatory bodies before making disposal decisions.

Contaminated Containers or Packaging

Do NOT weld, cut, or grind empty containers. Dispose of empty containers in accordance with local, regional, national, and international regulations

14. Transportation 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	No information available
New Zealand	May require notification before sale under New Zealand Regulations
Canada	No information available
Canada WHMIS	Not determined

- Other U.S. Federal Regulations -

SARA Ext. Haz. Subst.	No components listed as Extremely Hazardous Substances list. See 40 CFR 355
SARA Sect. 313	No components of this product are subject to reporting under SARA Title III, Section 313. See 40 CFR 372

SARA 311/312 Class	<i>Acute Hazard</i>	- YES
	<i>Chronic Hazard</i>	- NO
	<i>Fire Hazard</i>	- NO
	<i>Reactivity Hazard</i>	- NO

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

- State Regulations -

CA Prop 65 This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

<i>Right to Know Component</i>	<i>Right to Know States</i>
Polydimethylsiloxane (CAS # 63148-62-9)	NJ, PA
Tributylphosphate (CAS # 126-73-8)	MA, PA, NJ, LA

- Other -

16. Other Information

Revision updates may be in many sections and the MSDS should be read in its entirety. Prepared according to the UN Globally Harmonized System for the Classification and Labeling of Chemicals (GHS).

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