

# SAFETY DATA SHEET

Silicone DOT 5 Brake Fluid



## Section 1. Identification

**Product identifier** : Silicone DOT 5 Brake Fluid  
**Product code** : 301718150165  
**Other means of identification** : Not available.  
**Product type** : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Industrial applications: Brake fluids.	
Uses advised against	Reason
None known.	

**Supplier's details** : Calumet Branded Products, LLC  
2780 Waterfront Pkwy E. Drive Suite 200  
Indianapolis, IN 46214  
USA  
Technical Services:317-328-5660

**24hr. CHEMTREC** : 24 hr. CHEMTREC 1-800-424-9300 / International 1-703-527-3887  
**1-800-424-9300 /**  
**International 1-703-527-3887**

## Section 2. Hazard identification

**Classification of the substance or mixture** : CARCINOGENICITY - Category 2  
AQUATIC HAZARD (LONG-TERM) - Category 3

### GHS label elements

**Hazard pictograms** :



**Signal word** : Warning  
**Hazard statements** : Suspected of causing cancer.  
Harmful to aquatic life with long lasting effects.

### Precautionary statements

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Avoid release to the environment.  
**Response** : IF exposed or concerned: Get medical advice or attention.  
**Storage** : Store locked up.  
**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Other means of identification** : Not available.

Ingredient name	Synonyms	% (w/w)	CAS number
tributyl phosphate	Phosphoric acid tributyl ester; Phosphoric acid, tributyl ester; Butyl phosphate; Tri-n-butyl phosphate; Tributyl ester of phosphoric acid; TBP; normal tributyl phosphate; TBP; n-Butyl phosphate; Trialkyl (C1-20, or allylbutoxyethyl, glycerin, polyvinyl alcohol) phosphate	≥1 - ≤5	126-73-8
2,6-di-tert-butyl-p-cresol	Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-; 2,6-Bis(1,1-dimethylethyl)-4-methylphenol; 2,6-Di-tert-butyl-4-methylphenol; Butylated hydroxytoluene; p-Cresol, 2,6-di-tert-butyl-; 4-Methyl-2,6-di-tert-butylphenol; Dibutylated hydroxytoluene; BHT; 2,6-Di-t-butyl-4-methylphenol; E 321; BHT; butylated hydroxytoluene; 2,6-ditertiary-butyl-p-cresol; 4-methyl-2,6-ditertiarybutylphenol; 2,6-DITERT-BUTYL-P-CRESOL	≥0.1 - ≤1	128-37-0

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First-aid measures

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
phosphorus oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

## Section 6. Accidental release measures

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
tributyl phosphate	<b>CA Ontario Provincial (Canada, 6/2019).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction and vapour. <b>CA Quebec Provincial (Canada, 6/2021).</b> TWA <sub>EV</sub> : 5 mg/m <sup>3</sup> 8 hours. Form: inhalable dust and vapor fraction <b>CA Alberta Provincial (Canada, 6/2018).</b> 8 hrs OEL: 2.2 mg/m <sup>3</sup> 8 hours. 8 hrs OEL: 0.2 ppm 8 hours. <b>CA British Columbia Provincial (Canada, 3/2022).</b>

## Section 8. Exposure controls/personal protection

2,6-di-tert-butyl-p-cresol	<p>TWA: 0.2 ppm 8 hours.  <b>CA Saskatchewan Provincial (Canada, 7/2013).</b>          STEL: 0.4 ppm 15 minutes.          TWA: 0.2 ppm 8 hours.  <b>CA Saskatchewan Provincial (Canada, 7/2013).</b>          STEL: 4 mg/m<sup>3</sup> 15 minutes. Form: Inhalable fraction and vapour          TWA: 2 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction and vapour  <b>CA Ontario Provincial (Canada, 6/2019).</b>          TWA: 2 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction and vapour.  <b>CA British Columbia Provincial (Canada, 3/2022).</b>          TWA: 2 mg/m<sup>3</sup> 8 hours. Form: Inhalable vapour and aerosol  <b>CA Quebec Provincial (Canada, 6/2021).</b>          TWAEV: 2 mg/m<sup>3</sup> 8 hours. Form: inhalable dust and vapor fraction  <b>CA Alberta Provincial (Canada, 6/2018).</b>          8 hrs OEL: 10 mg/m<sup>3</sup> 8 hours.</p>
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### Biological exposure indices

None known.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

Physical state	: Liquid.
Color	: Purple.
Odor	: Not available.
Odor threshold	: Not available.
pH	: Not available.
Melting point/freezing point	: Not available.
Boiling point, initial boiling point, and boiling range	: >35°C (>95°F)
Flash point	: Closed cup: 101.1°C (214°F)
Evaporation rate	: Not available.
Flammability	: Not available.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	:

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
2,6-di-tert-butyl-p-cresol	0.01	0.0013				

Relative vapor density : Not available.

Relative density : 0.94

Solubility(ies)	:	Media	Result
		cold water	Not soluble
		hot water	Not soluble

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature	:	Ingredient name	°C	°F	Method
		tributyl phosphate	>482	>899.6	

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): Not applicable.

Flow time (ISO 2431) : Not available.

### Particle characteristics

Median particle size : Not applicable.

## Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

## Section 10. Stability and reactivity

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
tributyl phosphate	LC50 Inhalation Dusts and mists	Rat	28000 mg/m <sup>3</sup>	1 hours
	LD50 Oral	Rat	1390 mg/kg	-
2,6-di-tert-butyl-p-cresol	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	890 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
tributyl phosphate	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Guinea pig	-	24 hours 10 %	-
2,6-di-tert-butyl-p-cresol	Skin - Severe irritant	Rabbit	-	500 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Human	-	48 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	48 hours 500 mg	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Classification

Product/ingredient name	IARC	NTP	ACGIH
tributyl phosphate	-	-	A3
2,6-di-tert-butyl-p-cresol	3	-	A4

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.



## Section 11. Toxicological information

### Potential acute health effects

<b>Eye contact</b>	: No known significant effects or critical hazards.
<b>Inhalation</b>	: No known significant effects or critical hazards.
<b>Skin contact</b>	: No known significant effects or critical hazards.
<b>Ingestion</b>	: No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	: No specific data.
<b>Inhalation</b>	: No specific data.
<b>Skin contact</b>	: No specific data.
<b>Ingestion</b>	: No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Long term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

### Potential chronic health effects

Not available.

<b>General</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Reproductive toxicity</b>	: No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Silicone DOT 5 Brake Fluid	60434.8	N/A	N/A	N/A	N/A
tributyl phosphate	1390	N/A	N/A	N/A	7.00
2,6-di-tert-butyl-p-cresol	N/A	2500	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity



## Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
tributyl phosphate      2,6-di-tert-butyl-p-cresol	Acute EC50 1.1 mg/l Fresh water	Algae - Desmodesmus subspicatus - Exponential growth phase	72 hours
	Acute EC50 1.3 mg/l Fresh water	Algae - Desmodesmus subspicatus - Exponential growth phase	96 hours
	Acute LC50 1.17 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4.2 mg/dm3 Fresh water	Fish - Oncorhynchus mykiss - Fry	96 hours
	Chronic EC10 0.37 mg/l Fresh water	Algae - Desmodesmus subspicatus - Exponential growth phase	72 hours
	Chronic NOEC 1.3 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 1440 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute NOEC 0.4 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Chronic NOEC 0.07 mg/l	Daphnia - Daphnia magna	21 days

### Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2,6-di-tert-butyl-p-cresol	-	-	Not readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
tributyl phosphate	4	29.51	low
2,6-di-tert-butyl-p-cresol	5.1	330 to 1800	high

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : The following components are listed: phosphorus (total)  
**CEPA Toxic substances** : None of the components are listed.

### Inventory list

**Australia** : All components are listed or exempted.  
**Canada** : All components are listed or exempted.  
**China** : All components are listed or exempted.  
**Eurasian Economic Union** : **Russian Federation inventory:** All components are listed or exempted.  
**New Zealand** : All components are listed or exempted.  
**Philippines** : All components are listed or exempted.  
**Republic of Korea** : All components are listed or exempted.  
**Taiwan** : All components are listed or exempted.  
**Thailand** : All components are listed or exempted.  
**Turkey** : All components are listed or exempted.  
**United States** : ☒ All components are active or exempted.  
**Viet Nam** : All components are listed or exempted.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 03/09/2023

**Date of previous issue** : 06/08/2022

**Version** : 2.01

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 HPR = Hazardous Products Regulations  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 UN = United Nations

### Procedure used to derive the classification

## Section 16. Other information

Classification	Justification
CARCINOGENICITY - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method Calculation method

✔ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.