SAFETY DATA SHEET

Silicone DOT 5 Brake Fluid

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : Silicone DOT 5 Brake Fluid

UFI : Y3KG-24KD-J4DX-XH7U

Product code : 301718150165

Product description : Brake fluids.

Product type : Liquid.

Other means of identification : Not available.

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

Identified uses
Brake fluids.

Uses advised against
None known.

1.3 Details of the supplier of the safety data sheet

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

Supplier:
Monument Chemical BVBA
Haven 1972, Ketenislaan 3
B-9130 Kallo (Kieldrecht) Belgium
+32 3 570 28 11

e-mail address of person responsible for this SDS : technical@calumetspecialty.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : 0800-181-7059

CHEMTREC

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

Belgium: +(32)-28083237
Czech Republic: +(420)-228880039
Denmark: +(45)-69918573
Finland: +(358)-942419014
France: +(33)-975181407
Germany: 0800-181-7059, +(49)-69643508409
Greece: +(30)-2111768478
Ireland: +(353)-19014670
Italy: 800-789-767, +(39)-0245557031
Latvia: +(371)-66165504
Netherlands: +(31)-858880596
Norway: +(47)-21930678

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

Poland: +(48)-223988029
Portugal: +(351)-308801773
Spain: 900-868538, +(34)-931768545
Sweden: +(46)-852503403
United Kingdom (UK): +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Carc. 2, H351
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H351 - Suspected of causing cancer.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.
P273 - Avoid release to the environment.

Response : P308 + P313 - IF exposed or concerned: Get medical advice or attention.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Ingredients identification information : tributyl phosphate

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

SECTION 2: Hazards identification

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
tributyl phosphate	EC: 204-800-2 CAS: 126-73-8 Index: 015-014-00-2	≤3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Aquatic Chronic 2, H411	ATE [Oral] = 1390 mg/kg	[1] [2]
2,6-di-tert-butyl-p-cresol	REACH #: 01-2119565113-46 EC: 204-881-4 CAS: 128-37-0	≤0.3	Acute Tox. 4, H302 Aquatic Chronic 1, H410 **See Section 16 for the full text of the H statements declared above.**	ATE [Oral] = 890 mg/kg M [Chronic] = 1	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of 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

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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : 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 combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides

5.3 Advice for firefighters

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised 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

6.2 Environmental precautions : Avoid dispersal of spilt 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.

6.3 Methods and material 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 the 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 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 vapour 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.

7.2 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
tributyl phosphate	**DFG MAC-values list (Germany, 7/2022). Absorbed through skin.** TWA: 1 ppm 8 hours. PEAK: 2 ppm, 4 times per shift, 15 minutes. TWA: 11 mg/m³ 8 hours. PEAK: 22 mg/m³, 4 times per shift, 15 minutes. **TRGS 900 OEL (Germany, 6/2022). Absorbed through skin.** TWA: 11 mg/m³ 8 hours. TWA: 1 ppm 8 hours. PEAK: 22 mg/m³ 15 minutes. PEAK: 2 ppm 15 minutes.
2,6-di-tert-butyl-p-cresol	**DFG MAC-values list (Germany, 7/2022).** TWA: 10 mg/m³ 8 hours. Form: inhalable fraction PEAK: 40 mg/m³, 4 times per shift, 15 minutes. Form: inhalable fraction **TRGS 900 OEL (Germany, 6/2022).** TWA: 10 mg/m³ 8 hours. Form: Inhalable fraction PEAK: 40 mg/m³ 15 minutes. Form: Inhalable fraction

Biological exposure indices

Product/ingredient name	Exposure indices
tributyl phosphate	**DFG BEI-values list (Germany, 7/2022) Notes: danger from percutaneous absorption (see p. 211 and p. 228).** BEI: 0.5 µg/l, di-n-butyl phosphate [in urine]. Sampling time: end of exposure or end of shift.
2,6-di-tert-butyl-p-cresol	**DFG BEI-values list (Germany, 7/2022)** BEI: 7 µg/l, Butylated hydroxytoluene acid (after hydrolysis) [in urine]. Sampling time: end of exposure or end of shift.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
tributyl phosphate	DNEL	Long term Oral	0.22 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.22 mg/cm²	General population	Local
	DNEL	Long term Dermal	0.22 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.44 mg/cm²	Workers	Local
	DNEL	Long term Dermal	0.44 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0.77 mg/m³	General population	Local

SECTION 8: Exposure controls/personal protection

	DNEL	Long term Inhalation	0.77 mg/m³	General population	Systemic
	DNEL	Short term Oral	0.88 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	0.88 mg/cm²	General population	Local
	DNEL	Short term Dermal	0.88 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	1.78 mg/cm²	Workers	Local
	DNEL	Short term Dermal	1.78 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	3.08 mg/m³	General population	Local
	DNEL	Short term Inhalation	3.08 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	3.13 mg/m³	Workers	Local
	DNEL	Long term Inhalation	3.13 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	12.52 mg/m³	Workers	Local
	DNEL	Short term Inhalation	12.52 mg/m³	Workers	Systemic
2,6-di-tert-butyl-p-cresol	DNEL	Long term Oral	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.435 mg/m³	General population	Systemic
	DNEL	Long term Dermal	0.5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.76 mg/m³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour 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.

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.
Recommended: EN = European Standard (Norm) 166.

Skin protection

SECTION 8: Exposure controls/personal 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.
> 8 hours (breakthrough time): Wear suitable gloves tested to EN374. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment. Recommended : nitrile rubber, 55 mm thickness.

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.
Recommended: EN = European Standard (Norm) 340, EN = European Standard (Norm) 369, EN = European Standard (Norm) 465.

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.
Recommended: No personal respiratory protective equipment normally required. In case of inadequate ventilation wear respiratory protection. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. EN = European Standard (Norm)149.

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.

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Purple.

Odour : Not available.

Odour threshold : Not available.

Melting point/freezing point : Not available.

Initial boiling point and boiling range : >35°C (>95°F)

Flammability : Not available.

Lower and upper explosion limit : Not available.

Flash point : Closed cup: 101.1°C (214°F)

Auto-ignition temperature :

Ingredient name	°C	°F	Method
tributyl phosphate	>482	>899.6	

Decomposition temperature : Not available.

pH : Not available.

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

SECTION 9: Physical and chemical properties

Solubility(ies) :

Media	Result
cold water hot water	Not soluble Not soluble

Solubility in water : Not available.

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

Vapour pressure :

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

Evaporation rate : Not available.

Relative density : 0.94

Vapour density : Not available.

Explosive properties : Not available.

Oxidising properties : Not available.

Particle characteristics

Median particle size : Not applicable.

SECTION 10: Stability and reactivity

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

10.2 Chemical stability : The product is stable.

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

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

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

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
tributyl phosphate	LC50 Inhalation Dusts and mists	Rat	28000 mg/m³	1 hours
	LD50 Dermal	Rabbit	>3100 mg/kg	-
	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	-

Conclusion/Summary : Not available.

Acute toxicity estimates

SECTION 11: Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (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	890	N/A	N/A	N/A	N/A

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 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-
2,6-di-tert-butyl-p-cresol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Human	-	48 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	48 hours 500 mg	-

Conclusion/Summary : Not available.

Sensitisation

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.

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.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

SECTION 11: Toxicological information

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
tributyl phosphate	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
2,6-di-tert-butyl-p-cresol	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

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

SECTION 12: Ecological information

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

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
tributyl phosphate	4	29.51	Low
2,6-di-tert-butyl-p-cresol	5.1	330 to 1800	High

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	9006	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	-	-
14.3 Transport hazard class(es)	-	9	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	Yes.	No.	No.

- : Not applicable.

Additional information

ADR/RID : -

ADN : The product is only regulated as a dangerous good when transported in tank vessels.

IMDG : -

IATA : -

14.6 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.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
Silicone DOT 5 Brake Fluid	≥90	3

Labelling : Not applicable.

Other EU regulations

Explosive precursors : Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

SECTION 15: Regulatory information

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
tributyl phosphate	DFG MAC-values list	Tributyl phosphate; Phosphoric acid tributyl ester	K4	-
2,6-di-tert-butyl-p-cresol	DFG MAC-values list	3,5-Di-tert-butyl-4-hydroxytoluene; 2,6-Di-tert-butyl-p-cresol	K4	-

Storage class (TRGS 510) : 10

Hazardous incident ordinance

This product is not controlled under the Germany Hazardous Incident Ordinance.

Hazard class for water : 2

Registration number (UBA) : Not available.

Technical instruction on air quality control : TA-Luft Class I - Number 5.2.5: 1.8-2.5%

AOX : The product does not contain organically bound halogens which could lead to an AOX value in waste water.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not 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.

SECTION 15: Regulatory information

Viet Nam : All components are listed or exempted.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms :
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Carc. 2, H351 Aquatic Chronic 3, H412	Calculation method Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Carc. 2	CARCINOGENICITY - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2

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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.