SAFETY DATA SHEET
QUANTUM DOT4 BRAKE & CLUTCH FLUID

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

1.1. Product identifier

Product name QUANTUM DOT4 BRAKE & CLUTCH FLUID

Product number ZGB00QBRKFL1L,ZGB00QBRKFL5L,ZGB00QBRKFL20L

Internal identification B10911, 10420, 10421, 10422

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

Identified uses Brake fluid.

Uses advised against This product is not recommended for any industrial, professional or consumer use other than the identified uses stated above.

1.3. Details of the supplier of the safety data sheet

Supplier

Volkswagen Group United Kingdom Ltd
Yeomans Drive
Blakelands
Milton Keynes

MK14 5AN
01908 601601

Contact person SDS Admin

1.4. Emergency telephone number

Emergency telephone T : +44 (0) 1908 601601 (Office Hours Monday - Friday (0900 Hrs - 1700 Hrs))

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Eye Dam. 1 - H318 Elicitation - EUH208

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Xi;R41.

Human health May cause serious eye damage. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

Environmental The product is not expected to be hazardous to the environment.

2.2. Label elements

Pictogram

Signal word Danger

QUANTUM DOT4 BRAKE & CLUTCH FLUID

Hazard statements H318 Causes serious eye damage.
EUH208 Contains TETRAPROPENYL SUCCINIC ANHYDRIDE. May produce an allergic reaction.

Precautionary statements P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P102 Keep out of reach of children.

Contains 2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL, POLY(ETHYLENE GLYCOL) BUTYL ETHER

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL **30-60%**

CAS number: 143-22-6 EC number: 205-592-6 REACH registration number: 01-2119475107-38-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Dam. 1 - H318	Xi;R41

DIPROPYLENE GLYCOL **1-5%**

CAS number: 110-98-5 EC number: 203-821-4

Classification	Classification (67/548/EEC or 1999/45/EC)
Not Classified	-

TRI(PROPYLENE GLYCOL) METHYL ETHER **1-5%**

CAS number: 25498-49-1 EC number: 247-045-4 REACH registration number: 01-2119450087-41-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Not Classified	-

POLY(ETHYLENE GLYCOL) BUTYL ETHER **1-5%**

CAS number: 9004-77-7 EC number: 500-012-0 REACH registration number: 01-2119484615-30-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Irrit. 2 - H315 Eye Dam. 1 - H318	Xi;R38,R41.

GLYCERINE **1-5%**

CAS number: 56-81-5 EC number: 200-289-5 REACH registration number: 01-2119471987-18-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Not Classified	-

QUANTUM DOT4 BRAKE & CLUTCH FLUID

2-BUTOXYETHANOL **1-5%**

CAS number: 111-76-2 EC number: 203-905-0 REACH registration number: 01-2119475108-36-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Acute Tox. 4 - H332
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319

Classification (67/548/EEC or 1999/45/EC)
Xn;R20/21/22 Xi;R36/38

2-(2-ETHOXYETHOXY)ETHANOL **1-5%**

CAS number: 111-90-0 EC number: 203-919-7 REACH registration number: 01-2119475105-42-XXXX

Classification
Not Classified

Classification (67/548/EEC or 1999/45/EC)
-

DI-n-BUTYLAMINE **<1%**

CAS number: 111-92-2 EC number: 203-921-8 REACH registration number: 05-2114489667-26-XXXX

Classification
Flam. Liq. 3 - H226
Acute Tox. 4 - H302
Acute Tox. 3 - H311
Acute Tox. 2 - H330
Skin Corr. 1A - H314
Eye Dam. 1 - H318

Classification (67/548/EEC or 1999/45/EC)
R10 Xn;R20/21/22

2-AMINOETHANOL **<1%**

CAS number: 141-43-5 EC number: 205-483-3 REACH registration number: 01-2119486455-28-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Acute Tox. 4 - H332
Skin Corr. 1B - H314
STOT SE 3 - H335
Eye Dam. 1 - H318

Classification (67/548/EEC or 1999/45/EC)
Xn;R20/21/22. C;R34.

QUANTUM DOT4 BRAKE & CLUTCH FLUID

TETRAPROPENYL SUCCINIC ANHYDRIDE		<1%
CAS number: 26544-38-7	EC number: 247-781-6	REACH registration number: 01-2119979080-37-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319 Skin Sens. 1A - H317 Aquatic Chronic 4 - H413	Xi;R36/38. N;R51/53. R43.

2,2,4-TRIMETHYL-1,2-DIHYDROQUINOLINE, POLYMERIZED		<1%
CAS number: 26780-96-1	EC number: 500-051-3	REACH registration number: 01-2119486783-23-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Aquatic Chronic 3 - H412	R52/53.

TOLYLTRIAZOLE		<1%
CAS number: 29385-43-1	EC number: 249-596-6	REACH registration number: 01-2119979081-35-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302 Eye Irrit. 2 - H319 Aquatic Chronic 2 - H411	Xn;R22. Xi;R36. N;R51/53.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Never give anything by mouth to an unconscious person. Get medical attention if any discomfort continues.

Inhalation Unlikely route of exposure as the product does not contain volatile substances.

Ingestion Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Do not induce vomiting. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Do not induce vomiting.

Skin contact Rinse immediately with plenty of water. Remove contaminated clothing. Get medical attention promptly if symptoms occur after washing.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

QUANTUM DOT4 BRAKE & CLUTCH FLUID

Inhalation No significant hazard at normal ambient temperatures. Heating may generate the following products: Irritating gases or vapours.

Ingestion May cause discomfort if swallowed.

Skin contact Skin irritation should not occur when used as recommended. May cause an allergic skin reaction.

Eye contact Irritation of eyes and mucous membranes. Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with the following media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards The product is non-combustible. Irritating gases or vapours. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m3. Oxides of carbon. Oxides of nitrogen. No unusual fire or explosion hazards noted.

Hazardous combustion products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions In case of spills, beware of slippery floors and surfaces. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate.

6.2. Environmental precautions

Environmental precautions Contain spillage with sand, earth or other suitable non-combustible material. Avoid discharge into drains or watercourses or onto the ground. Collect and dispose of spillage as indicated in Section 13.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush contaminated area with plenty of water. Avoid contamination of ponds or watercourses with washing down water.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

QUANTUM DOT4 BRAKE & CLUTCH FLUID

7.1. Precautions for safe handling

Usage precautions Good personal hygiene procedures should be implemented. Avoid eating, drinking and smoking when using the product. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container. Keep container dry. Keep container tightly closed.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

No exposure limit value known.

DIPROPYLENE GLYCOL

No exposure limit value known.

TRI(PROPYLENE GLYCOL) METHYL ETHER

No exposure limit value known.

POLY(ETHYLENE GLYCOL) BUTYL ETHER

No exposure limit value known.

GLYCERINE

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ mist

2-BUTOXYETHANOL

Long-term exposure limit (8-hour TWA): WEL 25 ppm 123 mg/m³
Short-term exposure limit (15-minute): WEL 50 ppm 246 mg/m³
Sk

2-(2-ETHOXYETHOXY)ETHANOL

No exposure limit value known.

2-AMINOETHANOL

Sk
Long-term exposure limit (8-hour TWA): WEL 1 ppm 2.5 mg/m3
Short-term exposure limit (15-minute): WEL 3 ppm 7.6 mg/m3

TETRAPROPENYL SUCCINIC ANHYDRIDE

No exposure limit value known.

2,2,4-TRIMETHYL-1,2-DIHYDROQUINOLINE, POLYMERIZED

Particulates not otherwise classified (PNOC):
Long-term exposure limit (8-hour TWA): 10 mg/m³ Total inhalable dust.
Long-term exposure limit (8-hour TWA): 3 mg/m3 respirable dust

TOLYLTRIAZOLE

No exposure limit value known.

WEL = Workplace Exposure Limit
Sk = Can be absorbed through skin.

QUANTUM DOT4 BRAKE & CLUTCH FLUID

Ingredient comments WEL = Workplace Exposure Limits

TRIS [2-[2-(2-METHOXYETHOXY)ETHOXY]ETHYL] ORTHOBORATE] (CAS: 30989-05-0)

DNEL
Workers - Dermal; Long term systemic effects: 16.7 mg/kg bw/day
General population - Dermal, Oral; Long term systemic effects: 10 mg/kg bw/day

PNEC
- Fresh water; 0.2112 mg/l
- Marine water; 0.02112 mg/l
- Intermittent release; 2.112 mg/l
- STP; 100 mg/l
- Sediment (Freshwater); 0.76 mg/kg sediment dw
- Sediment (Marinewater); 0.076 mg/kg sediment dw
- Soil; 0.0283 mg/kg soil dw

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (CAS: 143-22-6)

DNEL
Workers - Inhalation; Long term systemic effects: 195 mg/m³
Workers - Dermal; Long term systemic effects: 50 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 117 mg/m³
General population - Dermal; Long term systemic effects: 25 mg/kg bw/day
General population - Oral; Long term systemic effects: 2.5 mg/kg bw/day

PNEC
- Fresh water; 1.5 mg/l
- Marine water; 0.15 mg/l
- Intermittent release; 5 mg/l
- STP; 200 mg/l
- Sediment (Freshwater); 5.77 mg/kg sediment dw
- Sediment (Marinewater); 0.13 mg/kg sediment dw
- Soil; 0.45 mg/kg soil dw

DIPROPYLENE GLYCOL (CAS: 110-98-5)

DNEL
Workers - Inhalation; Long term systemic effects: 238 mg/m³
Workers - Dermal; Long term systemic effects: 84 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 70 mg/m³
General population - Dermal; Long term systemic effects: 51 mg/kg bw/day
General population - Oral; Long term systemic effects: 24 mg/kg bw/day

PNEC
- Fresh water; 0.1 mg/l
- Marine water; 0.01 mg/l
- Intermittent release; 1 mg/l
- STP; 1000 mg/l
- Sediment (Freshwater); 0.238 mg/kg sediment dw
- Sediment (Marinewater); 0.0238 mg/kg sediment dw
- Soil; 0.0253 mg/kg soil dw

TRI(PROPYLENE GLYCOL) METHYL ETHER (CAS: 25498-49-1)

DNEL
Workers - Inhalation; Long term systemic effects: 10 mg/l
Workers - Dermal; Long term systemic effects: 16.08 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 1.6 mg/m³
General population - Dermal, Oral; Long term systemic effects: 8.04 mg/kg bw/day

QUANTUM DOT4 BRAKE & CLUTCH FLUID

PNEC

- Fresh water; 116.2 mg/l
- Marine water; 11.62 mg/l
- Intermittent release; 1161.9 mg/l
- STP; 200 mg/l
- Sediment (Freshwater); 433.4 mg/kg sediment dw
- Sediment (Marinewater); 43.3 mg/kg sediment dw
- Soil; 18.52 mg/kg soil dw

GLYCERINE (CAS: 56-81-5)

DNEL

Workers - Inhalation; Long term local effects: 56 mg/m³
General population - Inhalation; Long term local effects: 33 mg/m³
General population - Oral; Long term systemic effects: 229 mg/kg bw/day

PNEC

- Fresh water; 0.885 mg/l
- Marine water; 0.0885 mg/l
- Intermittent release; 8.85 mg/l
- STP; 1000 mg/l
- Sediment (Freshwater); 3.3 mg/kg sediment dw
- Sediment (Marinewater); 0.33 mg/kg sediment dw
- Soil; 0.141 mg/kg soil dw

POLY(ETHYLENE GLYCOL) BUTYL ETHER (CAS: 9004-77-7)

DNEL

Workers - Inhalation; Long term systemic effects: 195 mg/m³
Workers - Dermal; Long term systemic effects: 50 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 117 mg/m³
General population - Dermal; Long term systemic effects: 25 mg/kg bw/day
General population - Oral; Long term systemic effects: 2.5 mg/kg bw/day

PNEC

- Fresh water; 4.5 mg/l
- Marine water; 0.31 mg/l
- Intermittent release; 24.9 mg/l
- STP; 500 mg/l
- Sediment (Freshwater); 6.6 mg/kg sediment dw
- Sediment (Marinewater); 0.66 mg/kg sediment dw
- Soil; 1.32 mg/kg soil dw

2-(2-ETHOXYETHOXY)ETHANOL (CAS: 111-90-0)

DNEL

Workers - Inhalation; Long term systemic effects: 37 mg/m³
Workers - Inhalation; Long term local effects: 18 mg/m³
Workers - Dermal; Long term systemic effects: 50 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 18.3 mg/m³
General population - Inhalation; Long term local effects: 9 mg/m³
General population - Dermal, Oral; Long term systemic effects: 25 mg/kg bw/day

PNEC

- Fresh water; 0.74 mg/l
- Marine water; 0.074 mg/l
- Intermittent release; 10 mg/l
- STP; 500 mg/l
- Sediment (Freshwater); 2.74 mg/kg sediment dw
- Sediment (Marinewater); 0.274 mg/kg sediment dw
- Soil; 0.15 mg/kg soil dw

QUANTUM DOT4 BRAKE & CLUTCH FLUID

2-BUTOXYETHANOL (CAS: 111-76-2)

DNEL

Industry - Dermal; Short term : 89 mg/kg/day
Industry - Inhalation; Short term : 663 mg/m³
Industry - Dermal; Long term : 75 mg/kg/day
Industry - Inhalation; Long term : 98 mg/m³
Consumer - Dermal; Short term : 44.5 mg/kg/day
Consumer - Oral; Short term : 13.4 mg/kg/day
Consumer - Inhalation; Short term : 123 mg/m³
Consumer - Inhalation; Long term : 49 mg/m³

PNEC

- Fresh water; 8.8 mg/l
- Marine water; 0.88 mg/l
- Soil; 3.13 mg/kg soil dw
- Intermittent release; 9.1 mg/l
- Sediment (Freshwater); 34.6 mg/kg sediment dw
- Sediment (Marinewater); 3.46 mg/kg sediment dw
- STP; 463 mg/l

DI-n-BUTYLAMINE (CAS: 111-92-2)

DNEL

Workers - Inhalation; Long term systemic effects: 29 mg/m³
Workers - Inhalation; Short term Acute: 29 mg/m³
Workers - Inhalation; Long term, Short term local effects, Acute: 29 mg/m³

PNEC

- Fresh water; 0.084 mg/l
- Marine water; 0.0084 mg/l
- Intermittent release; 0.084 mg/l
- STP; 149.5 mg/l
- Sediment (Freshwater); 11.4 mg/kg sediment dw
- Sediment (Marinewater); 1.14 mg/kg sediment dw
- Soil; 2.23 mg/kg soil dw

2-AMINOETHANOL (CAS: 141-43-5)

DNEL

Workers - Inhalation; Long term local effects: 3.3 mg/m³
Workers - Dermal; Long term systemic effects: 1 mg/kg bw/day
General population - Inhalation; Long term local effects: 2 mg/m³
General population - Dermal; Long term systemic effects: 0.24 mg/kg bw/day
General population - Oral; Long term systemic effects: 3.75 mg/kg bw/day

PNEC

- Fresh water; 0.085 mg/l
- Marine water; 0.0085 mg/l
- Intermittent release; 0.028 mg/l
- STP; 100 mg/l
- Sediment (Freshwater); 0.434 mg/kg sediment dw
- Sediment (Marinewater); 0.0434 mg/kg sediment dw
- Soil; 0.0367 mg/kg soil dw

TETRAPROPENYL SUCCINIC ANHYDRIDE (CAS: 26544-38-7)

DNEL

Professional - Dermal; Long term systemic effects: 0.33 mg/kg bw/day

QUANTUM DOT4 BRAKE & CLUTCH FLUID

PNEC

- Fresh water; 0.02 mg/l
- Marine water; 0.002 mg/l
- Intermittent release; 0.2 mg/l
- STP; 10 mg/l
- Sediment (Freshwater); 1.7 mg/kg sediment dw
- Sediment (Marinewater); 0.17 mg/kg sediment dw
- Soil; 0.2 mg/kg soil dw

2,2,4-TRIMETHYL-1,2-DIHYDROQUINOLINE, POLYMERIZED (CAS: 26780-96-1)

DNEL

Workers - Inhalation; Long term systemic effects: 7 mg/m³
Workers - Dermal; Long term systemic effects: 1 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 1.8 mg/m³
General population - Dermal, Oral; Long term systemic effects: 0.6 mg/kg bw/day

PNEC

- Fresh water; 0.056 mg/l
- Marine water; 0.0056 mg/l
- Intermittent release; 0.56 mg/l
- STP; 100 mg/l
- Sediment (Freshwater); 21 mg/kg sediment dw
- Sediment (Marinewater); 2.1 mg/kg sediment dw
- Soil; 4.2 mg/kg soil dw

TOLYLTRIAZOLE (CAS: 29385-43-1)

DNEL

Workers - Inhalation; Long term systemic effects: 8.8 mg/m³
Workers - Dermal; Long term systemic effects: 0.5 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 4.4 mg/m³
General population - Dermal; Long term, Short term systemic effects, Acute: 0.25 mg/kg bw/day

PNEC

- Fresh water; 0.008 mg/l
- Marine water; 0.008 mg/l
- Intermittent release; 0.086 mg/l
- STP; 39.4 mg/l
- Sediment (Freshwater); 0.0025 mg/kg sediment dw
- Sediment (Marinewater); 0.0025 mg/kg sediment dw
- Soil; 0.0024 mg/kg soil dw

8.2. Exposure controls

Protective equipment

Appropriate engineering controls

Provide adequate ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

QUANTUM DOT4 BRAKE & CLUTCH FLUID

Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact. Use appropriate skin cream to prevent drying of skin.
Hygiene measures	Provide eyewash station. Wash promptly if skin becomes contaminated. Change work clothing daily before leaving workplace. No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.
Respiratory protection	No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.
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

9.1. Information on basic physical and chemical properties

Appearance	Transparent.
Colour	Light or Pale Straw to Amber (Except for Dyed Variants)
Odour	Mild. Ethereal
pH	pH (concentrated solution): 7.0 to 10.5
Melting point	Below Minus 50°C
Initial boiling point and range	>250°C @ 760 mm Hg
Evaporation rate	<0.01 (Butyl Acetate = 1)
Vapour pressure	<0.01 mm Hg @ 20°C
Relative density	1.06 @ 20°C
Solubility(ies)	Completely soluble in water.

9.2. Other information

Molecular weight	Mixture

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability	Stable when stored in a dry place. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

Conditions to avoid	Avoid contact with the following materials: Acids. Oxidising agents. Avoid contact with water.

10.5. Incompatible materials

QUANTUM DOT4 BRAKE & CLUTCH FLUID

Materials to avoid Strong acids. Strong alkalis. Strong oxidising agents. Water, steam, water mixtures. Mineral oils

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Materials used in this product have been shown to be of very low toxicity, but best practice dictates that prolonged exposure should be avoided.

Acute toxicity - oral

ATE oral (mg/kg) 194,080.54

Acute toxicity - dermal

ATE dermal (mg/kg) 77,053.35

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 174.18

General information This product has low toxicity. Only large quantities are likely to have adverse effects on human health. To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

Inhalation No significant hazard at normal ambient temperatures. Heating may generate the following products: Irritating gases or vapours.

Ingestion No harmful effects expected from quantities likely to be ingested by accident.

Skin contact Skin irritation should not occur when used as recommended. May cause an allergic skin reaction.

Eye contact Causes serious eye damage.

Acute and chronic health hazards Not expected to be a health hazard when used under normal conditions.

Target organs Eyes

Toxicological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg) 5,170.0

Species Rat

ATE oral (mg/kg) 5,170.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg) 3,540.0

Species Rabbit

QUANTUM DOT4 BRAKE & CLUTCH FLUID

ATE dermal (mg/kg)	3,540.0

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Data lacking.

Skin corrosion/irritation

Animal data	Conclusive data but not sufficient for classification.

Serious eye damage/irritation

Serious eye damage/irritation	Risk of serious damage to eyes.

Respiratory sensitisation

Respiratory sensitisation	Data lacking.

Skin sensitisation

Skin sensitisation	Conclusive data but not sufficient for classification.

Germ cell mutagenicity

Genotoxicity - in vitro	Negative.
Genotoxicity - in vivo	Conclusive data but not sufficient for classification.

Carcinogenicity

Carcinogenicity	Data lacking.

Reproductive toxicity

Reproductive toxicity - fertility	Conclusive data but not sufficient for classification.

Specific target organ toxicity - single exposure

STOT - single exposure	Conclusive data but not sufficient for classification.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Conclusive data but not sufficient for classification.

Aspiration hazard

Aspiration hazard	No data available.

Eye contact	May cause chemical eye burns.

SECTION 12: Ecological Information

Ecotoxicity	The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment. The product is not expected to be toxic to aquatic organisms.

12.1. Toxicity

Toxicity	Not considered toxic to fish.
Acute toxicity - fish	LC_{50}, 96 hours: > 50 mg/l, Fish

QUANTUM DOT4 BRAKE & CLUTCH FLUID

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: > 50 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC_{50}, 72 hours: > 50 mg/l, Algae

Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Acute toxicity - fish	LC50, 96 hours: 2400 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 2210 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 72 hours: > 612.6 mg/l, Scenedesmus subspicatus NOEC, 72 hours: 62.5 mg/l, Scenedesmus subspicatus
Acute toxicity - microorganisms	IC_{50}, 16 hours: >5000 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability The product is biodegradable but it must not be discharged into drains without permission from the authorities. The product is degraded completely by photochemical oxidation.

Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Persistence and degradability	The product is readily biodegradable.
Biodegradation	Air. - Degradation (%) 85: 28 days The substance is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Bioaccumulative potential	Not potentially bioaccumulative
Partition coefficient	log Pow: -0.49 log Kow: ≤ 4.5

12.4. Mobility in soil

Mobility The product contains substances which are water-soluble and may spread in water systems.

Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Mobility	Potential for mobility in soil is very high.
Adsorption/desorption coefficient	Soil - Koc: 0 - 50 @ °C
Henry's law constant	~ 1.40E-06 atm m3/mol @ °C

12.5. Results of PBT and vPvB assessment

QUANTUM DOT4 BRAKE & CLUTCH FLUID

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste packaging should be collected for reuse or recycling.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

National regulations The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

QUANTUM DOT4 BRAKE & CLUTCH FLUID

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Guidance	CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131. Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Issued by	HS&E Manager.
Revision date	10/06/2015
Revision	4
Supersedes date	26/09/2014
SDS status	Approved.
Risk phrases in full	R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R22 Harmful if swallowed. R36 Irritating to eyes. R38 Irritating to skin. R41 Risk of serious damage to eyes. R43 May cause sensitisation by skin contact.
Hazard statements in full	EUH208 Contains TETRAPROPENYL SUCCINIC ANHYDRIDE. May produce an allergic reaction. H226 Flammable liquid and vapour. H302 Harmful if swallowed. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H330 Fatal if inhaled. H332 Harmful if inhaled.