



# SAFETY DATA SHEET

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

### 1.1. Product identifier

|  |                             |
|--|-----------------------------|
| Trade name or designation of the mixture | Comma Brake Fluid DOT 4 ESP |
| Registration number                      | -                           |
| Synonyms                                 | None.                       |
| Product code                             | BF4ESP*L                    |
| Issue date                               | 02-November-2018            |
| Version number                           | 07                          |
| Revision date                            | 02-November-2018            |

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

|                      |             |
|----------------------|-------------|
| Identified uses      | Brake fluid |
| Uses advised against | None known. |

### 1.3. Details of the supplier of the safety data sheet

|           |   |
|-----------|---|
|           | Manufactured by Moove Lubricants                      |
| Address   | Dering Way, Gravesend, Kent DA12 2QX                  |
| Telephone | +44 (0) 1474 564 311                                  |
| Address   | Operations Plant Dering Way, Gravesend, Kent DA12 2QX |
| Telephone | +44 (0) 1474 564 311                                  |
| Email     | technical@uk.moovelub.com                             |

### 1.4. Emergency telephone

|                    |                      |
|--------------------|----------------------|
| Asia Pacific       | + (1) 760 476 3960   |
| China              | + (86) 4001 2001 74  |
| Europe             | + (44) 8 08 189 0979 |
| Middle East/Africa | + (1) 760 476 3959   |

Access code 334498

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Regulation (EC) No 1272/2008 as amended

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

**Hazard summary** Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

|                   |  |
|-------------------|--|
| Hazard pictograms | None.  |
| Signal word       | None.  |
| Hazard statements | The mixture does not meet the criteria for classification. |

#### Precautionary statements

|                    |  |
|--------------------|--|
| <b>Prevention</b>  |  |
| P102               | Keep out of reach of children.   |
| <b>Response</b>    |  |
| P301 + P310        | IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.  |
| P337 + P313        | If eye irritation persists: Get medical advice/attention.  |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| <b>Storage</b>     | Not available.   |
| <b>Disposal</b>    | Not available.   |

**Supplemental label information** None.

### 2.3. Other hazards

Not a PBT or vPvB substance or mixture.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

| Chemical name                            | %                                 | CAS-No. / EC No.      | REACH Registration No. | Index No.    | Notes |
|--|-----------------------------------|-----------------------|------------------------|--------------|-------|
| Diethylene glycol                        | 5 - < 10                          | 111-46-6<br>203-872-2 | -                      | 603-140-00-6 |       |
| <b>Classification:</b>                   | Acute Tox. 4;H302, STOT RE 2;H373 |                       |                        |              |       |
| Butyl Diglycol                           | 1 - < 3                           | 112-34-5<br>203-961-6 | -                      | 603-096-00-8 | #     |
| <b>Classification:</b>                   | Eye Irrit. 2;H319                 |                       |                        |              |       |
| Methyl Diglycol                          | 1 - < 3                           | 111-77-3<br>203-906-6 | -                      | 603-107-00-6 | #     |
| <b>Classification:</b>                   | Repr. 2;H361d                     |                       |                        |              |       |
| Other components below reportable levels | 90 - 100                          |                       |                        |              |       |

#### List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Composition comments** The full text for all H-statements is displayed in section 16.

## SECTION 4: First aid measures

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 4.1. Description of first aid measures

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**4.2. Most important symptoms and effects, both acute and delayed** Exposure may cause temporary irritation, redness, or discomfort.

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

## SECTION 5: Firefighting measures

**General fire hazards** No unusual fire or explosion hazards noted.

### 5.1. Extinguishing media

**Suitable extinguishing media** Alcohol resistant foam. Powder. Carbon dioxide (CO<sub>2</sub>).

**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** During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special fire fighting procedures** Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

**For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

**6.2. Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

Use water spray to reduce vapours or divert vapour cloud drift.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

### 6.4. Reference to other sections

## SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Avoid prolonged exposure. Observe good industrial hygiene practices.

#### 7.2. Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

#### 7.3. Specific end use(s)

Brake fluid

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### UK. EH40 Workplace Exposure Limits (WELs)

| Components                       | Type | Value                   |
|----------------------------------|------|-------------------------|
| Butyl Diglycol (CAS 112-34-5)    | STEL | 101.2 mg/m <sup>3</sup> |
|                                  |      | 15 ppm                  |
|                                  | TWA  | 67.5 mg/m <sup>3</sup>  |
| Diethylene glycol (CAS 111-46-6) | TWA  | 101 mg/m <sup>3</sup>   |
|                                  |      | 23 ppm                  |
| Methyl Diglycol (CAS 111-77-3)   | TWA  | 50.1 mg/m <sup>3</sup>  |
|                                  |      | 10 ppm                  |

##### EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

| Components                     | Type | Value                   |
|--------------------------------|------|-------------------------|
| Butyl Diglycol (CAS 112-34-5)  | STEL | 101.2 mg/m <sup>3</sup> |
|                                |      | 15 ppm                  |
|                                | TWA  | 67.5 mg/m <sup>3</sup>  |
| Methyl Diglycol (CAS 111-77-3) | TWA  | 50.1 mg/m <sup>3</sup>  |
|                                |      | 10 ppm                  |

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Recommended monitoring procedures

Follow standard monitoring procedures.

#### Derived no effect levels (DNELs)

Not available.

#### Predicted no effect concentrations (PNECs)

Not available.

#### Exposure guidelines

##### UK EH40 WEL: Skin designation

Methyl Diglycol (CAS 111-77-3)

Can be absorbed through the skin.

### 8.2. Exposure controls

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

**General information** Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**- Hand protection** Wear appropriate chemical resistant gloves.

**- Other** Wear suitable protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Environmental exposure controls** Environmental manager must be informed of all major releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

**Physical state** Liquid.

**Form** Liquid.

**Colour** Yellow-orange.

**Odour** Characteristic.

**Odour threshold** Not available.

**pH** 7 - 10.5

**Melting point/freezing point** < -50 °C (< -58 °F)

**Initial boiling point and boiling range** 260 - 300 °C (500 - 572 °F)

**Flash point** > 115.0 °C (> 239.0 °F)

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not applicable.

#### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Vapour pressure** 0.005 hPa estimated

**Vapour density** Not available.

**Relative density** 1.065

**Relative density temperature** 20 °C (68 °F)

#### Solubility(ies)

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.

**9.2. Other information** No relevant additional information available.

## SECTION 10: Stability and reactivity

**10.1. Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability** Material is stable under normal conditions.

|   |   |
|---|---|
| <b>10.3. Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use. |
| <b>10.4. Conditions to avoid</b>                | Contact with incompatible materials.                        |
| <b>10.5. Incompatible materials</b>             | Strong oxidising agents.                                    |
| <b>10.6. Hazardous decomposition products</b>   | No hazardous decomposition products are known.              |

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Prolonged inhalation may be harmful.  |
| <b>Skin contact</b> | No adverse effects due to skin contact are expected.  |
| <b>Eye contact</b>  | Direct contact with eyes may cause temporary irritation.  |
| <b>Ingestion</b>    | May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure. |

**Symptoms** Exposure may cause temporary irritation, redness, or discomfort.

### 11.1. Information on toxicological effects

#### Acute toxicity

| Components                       | Species | Test Results |
|----------------------------------|---------|--------------|
| Butyl Diglycol (CAS 112-34-5)    |         |              |
| <b>Acute</b>                     |         |              |
| <b>Dermal</b>                    |         |              |
| LD50                             | Rabbit  | 2700 mg/kg   |
| <b>Oral</b>                      |         |              |
| LD50                             | Rat     | 3306 mg/kg   |
| Diethylene glycol (CAS 111-46-6) |         |              |
| <b>Acute</b>                     |         |              |
| <b>Dermal</b>                    |         |              |
| LD50                             | Rabbit  | 11890 mg/kg  |
| <b>Oral</b>                      |         |              |
| LD50                             | Rat     | 12570 mg/kg  |
| Methyl Diglycol (CAS 111-77-3)   |         |              |
| <b>Acute</b>                     |         |              |
| <b>Dermal</b>                    |         |              |
| LD50                             | Rabbit  | 6540 mg/kg   |
| <b>Oral</b>                      |         |              |
| LD50                             | Rat     | 5500 mg/kg   |

**Skin corrosion/irritation** Due to partial or complete lack of data the classification is not possible.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

**Respiratory sensitisation** Due to partial or complete lack of data the classification is not possible.

**Skin sensitisation** Due to partial or complete lack of data the classification is not possible.

**Germ cell mutagenicity** Due to partial or complete lack of data the classification is not possible.

**Carcinogenicity** Due to partial or complete lack of data the classification is not possible.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Due to partial or complete lack of data the classification is not possible.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Due to partial or complete lack of data the classification is not possible.

**Mixture versus substance information** No information available.

**Other information** Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

| Product                          |      | Species  | Test Results                        |
|----------------------------------|------|--|-------------------------------------|
| Comma Brake Fluid DOT 4 ESP      |      |  |                                     |
| <b>Aquatic</b>                   |      |  |                                     |
| Fish                             | LC50 | Fish   | 83169.3672 mg/l, 96 hours estimated |
| <b>Components</b>                |      | <b>Species</b>                                   | <b>Test Results</b>                 |
| Butyl Diglycol (CAS 112-34-5)    |      |  |                                     |
| <b>Aquatic</b>                   |      |  |                                     |
| Fish                             | LC50 | Bluegill ( <i>Lepomis macrochirus</i> )          | 1300 mg/l, 96 hours                 |
| Diethylene glycol (CAS 111-46-6) |      |  |                                     |
| <b>Aquatic</b>                   |      |  |                                     |
| Fish                             | LC50 | Western mosquitofish ( <i>Gambusia affinis</i> ) | > 32000 mg/l, 96 hours              |
| Methyl Diglycol (CAS 111-77-3)   |      |  |                                     |
| <b>Aquatic</b>                   |      |  |                                     |
| Fish                             | LC50 | Bluegill ( <i>Lepomis macrochirus</i> )          | 7500 mg/l, 96 hours                 |

**12.2. Persistence and degradability** No data is available on the degradability of any ingredients in the mixture.

### 12.3. Bioaccumulative potential

#### Partition coefficient n-octanol/water (log Kow)

Butyl Diglycol 0.56

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** Not a PBT or vPvB substance or mixture.

**12.6. Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Residual waste** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**EU waste code** The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Disposal methods/information** Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Special precautions** Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

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

## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### Authorisations

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Butyl Diglycol (CAS 112-34-5)

Methyl Diglycol (CAS 111-77-3)

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### Other EU regulations

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

#### National regulations

Follow national regulation on the protection of workers from the risks of exposure to carcinogens and mutagens at work, in accordance with Directive 2004/37/EC.

#### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

#### List of abbreviations

Not available.

#### References

Not available.

#### Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

#### Full text of any H-statements not written out in full under Sections 2 to 15

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

#### Revision information

Product and Company Identification: Alternate Trade Names

#### Training information

Follow training instructions when handling this material.

#### Disclaimer

Moove Lubricants Ltd. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.