Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **BRAKE FLUID DOT4**

Manufacturer/Supplier : NanoC Ventures Sdn Bhd
No. 3, Jalan SR 7/11, Taman Serdang Raya
43300 Seri Kembangan, Selangor Darul Ehsan.

MSDS Request :

Emergency Telephone Number

Spill Information : +603 8957 9920

Health Information : +603 8957 9920 / +6012 323 0407

2. COMPOSITION/INFORMATION ON INGREDIENTS

- Triethylene glycol monobutyl ether
- 2-(2- butoxyethoxy) ethanol
- 4,4'- isopropylidenediphenol
- Contains corrosion inhibitor and anti-oxidant formulation. Refer to chapter 16 for full text of EC R-phrases

3. HAZARDS IDENTIFICATION

NON HAZARDOUS SUBSTANCE. NON DANGEROUS GOODS

Not classified as dangerous under EC criteria. May cause slight irritation to skin. Moderately irritating to eyes. Data not available. Not classified as flammable but will burn.

Health Hazards Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.
SUSMP Schedule : Not Scheduled.

4. FIRST AID MEASURES

General Information : Not expected to be a health hazard when used under normal conditions.

Inhalation : No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

Skin Contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

Eye Contact : Flush eye with copious quantities of water for at least 15 minutes while holding eye lid open. If persistent irritation occurs, obtain medical attention.

Ingestion : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Advice to Physician : Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific Hazards : Material will not burn unless preheated. Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.

Suitable Extinguishing : Alcohol free Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media : Do not use water in a jet.

Protective Equipment for Firefighters : Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

Protective measure : Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Clean Up Methods : Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

Additional Advice : Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage : Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F.

Recommended Materials: For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials : PVC.

Additional Information : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers**.**

Respiratory Protection : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapors [boiling point >65 °C (149 °F)].

Hand Protection : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye Protection : Wear safety glasses or full face shield if splashes are likely to occur.

Protective Clothing : Skin protection not ordinarily required beyond standard issue work clothes.

Monitoring Methods : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Environmental Exposure Control: Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Amber. Dyed Liquid at room temperature.
Odour	: Ethereal
pH	: Typical 7.0-11.5, as 50% volume aqueous ethanol solutions
Initial Boiling Point and Boiling Range	: > 260 °C / 500 °F estimated value(s)
Pour point	: Typical -45 °C
Flash point	: > 100°C (COC)
Upper / lower Flammability or Explosion limits	: No Data Available.
Auto-ignition temperature	: > 300°C / 572 °F
Vapour pressure	: < 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Density	: Typical 1.030-1.070 kg/cm3 at 15 °C / 59 °F
Water solubility	: Miscible
Kinematic viscosity	: 1380 mm2/s 40 °C : 1.5 mm2/s 100 °C
Vapour density (air=1)	: Data Not Available.

10. STABILITY AND REACTIVITY

Stability	: Stable. Hygroscopic.
Conditions to Avoid	: Exposure to water vapour.
Materials to Avoid	: Mineral oil. Water vapour.
Hazardous Decomposition Products	: Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	: Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	: Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	: Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	: Expected to be of low toxicity: LD50 > 5mg/l , 4 h Rat
Skin Irritation	: Expected to be non – irritating to skin
Eye Irritation	: Expected to be non – irritating to eyes
Respiratory Irritation	: Inhalation of vapours or mists may cause irritation.
Sensitisation	: Not expected to be a skin sensitiser.
Repeated Dose Toxicity	: Not expected to be a hazard.
Mutagenicity	: Not expected to be mutagenic.
Carcinogenicity	: Components not expected to be carcinogenic.
Reproductive and Developmental Toxicity	: May impair fertility at doses which produce other toxic effects. : (4,4'-isopropylidenediphenol)

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity : Expected to be practically non-toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract).

Mobility : Liquid under most environmental conditions. Dissolves in water. If product enters soil, it will be highly mobile and may contaminate groundwater.

Persistence/degradability: Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

Bioaccumulation : Not expected to bioaccumulate significantly.

Other Adverse Effect : Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.

Container Disposal : Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Local Legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

Land (as per ADR classification): Not regulated
This material is not classified as dangerous under ADR regulations.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)

This material is not classified as dangerous under IATA regulations or need to follow country speciic requirements.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

EC Classification : Not classified as dangerous under EC criteria
EC Symbols : No Hazard Symbol required
EC Risk Phrases : Not classified
EC Safety Phrases : S2 Keep out of the reach of children.
: S24 Avoid contact with skin
: S46 If swallowed, seek medical advice immediately and show this container or label.

Chemical Inventory Status
EINECS : All components listed or polymer exempt.

TSCA : All components listed.

Sensitiser not sufficient to classify : Contains 4,4'- Isopropylidenediphenol. May produce an allergic reaction.

16. OTHER INFORMATION

R-phrase(s)

Not classified.
R36 Irritating to eyes.
R37 Irritating to respiratory system.
R41 Risk of serious damage to eyes.
R43 May cause sensitisation by skin contact.
R52 Harmful to aquatic organisms.
R62 Possible risk of impaired fertility.
Shell Brake and Clutch Fluid DOT 4
Version 1.0 Effective Date 01.12.2011

MSDS Version : 1.0

Number MSDS Effective Date: 18/10/2017
MSDS Revisions : A vertical bar (|) in the left margin indicates an amendment from the previous version.

MSDS Distribution : The information in this document should be made available to all who may handle

the product.

Disclaimer : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.