

**MATERIAL SAFETY DATA SHEET**

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Revised edition no : 01

P-720 BRAKE & CLUTCH FLUID DOT 4

Effective Date: 15-7-2014

1 Identification of the Product and the company

Chemical Name : Brake & Clutch Fluid Dot 4
Type of product chemical family : Lather Dressing
Producer : TLC-KOYA CHEMICALS MANUFACTURING SDN BHD
No.22 & 23, Jalan Maju 1,
Cemerlang Industrial Estate,
81800 Ulu Tiram, Johor, Malaysia.
Tel: 607-8675798 Fax: 607-8675799
Website: www.koyachemicals.com Email: admin@koyachemicals.com

Emergency phone nr : See producer

2 composition / Information on Ingredients

Hazardous Ingredients : 2.2 Dihydroxydiethyl ether
Monoethylene glycol
Triethylene glycol
Anti-oxidant
Corrosion inhibitor
Amine

3 Hazard Identification

Health Hazard : May cause an allergic skin reaction.
Environment Hazard : This preparation does not require classification on the basis of environment hazard.
See Section 12 for environment information.

Physical and Chemical Hazards /
Fire and Explosion Hazards : Low hazard. Material can form flammable mixture or can burn only heating to temperature at or above the flash point. See Section 9 "PHYSICAL AND CHEMICAL PROPERTIES".
Decomposes. Flammable and or toxic gases will form upon decomposition. See Section 10 "STABILITY AND REACTIVITY".
Toxic gases will form upon combustion. See Section 5 "FIRE-FIGHTING MEASURES".

4 First and Measures

Inhalation : Using proper respiratory protection, immediately remove the affected victim' from exposure.
Administer artificial respiration if breathing is stopped. Keep at rest.
Call for prompt medical attention.

Skin Contact : Flush with large amounts of water and use soap if available.
Remove grossly contaminated clothing including shoes and launder before reuse.

Eye Contact : Immediately flush eyes with large amounts of water for at least 15 minutes.
Get prompt medical attention.

Ingestion : If swallowed, DO NOT induces vomiting. Keep at rest. Get prompt medical attention.

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5 Fire Fighting Measures

Fire Fighting Procedures : Use water spray cool fire exposed surfaces and to protect personnel. Shut off "fuel" to fire. Use dry chemical powder, foam, carbon dioxide (CO²) or water fog to extinguish fire.

Special Fire Precautions : Respiratory and eye protection required for the fire fighting personnel. See also Section 4 "FIRST AID MEASURES" as well as Section 10 "STABILITY AND REACTIVITY".

Hazardous Combustion Products : Fumes, smoke, carbon dioxide (CO²), carbon monoxide (CO), oxides of phosphorus (Toxic), oxide of sulfur (Toxic)

6 Accidental Release Measures

Land Spill : Contain spilled liquid with sand or earth. Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent. If liquid is too viscous for pumping, scrape up with shovels or pails and place in suitable containers for recycle or disposal. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations. See Section 4 "FIRST AND MEASURES" as well as Section 10 "STABILITY AND REACTIVITY".

Water Spill : Warn other shipping. Notify port or relevant authority and keep public away. Shut off source if possible to do so without hazard. Confine if possible. Remove from surface by skimming or with suitable absorbents. If swallowed by local authorities and environment agencies sinking and or suitable dispersants may be used in non-confined waters. Consult an expert on disposal of any recovered material and ensure conformity to local disposal regulations. See also Section 4 "FIRST AID MEASURES" as well as Section 10 "STABILITY AND REACTIVITY".



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7 Handling and Storage

Electrostatic Accumulation Hazard? : No, but use proper grounding procedure.
Loading / Unloading Temperature : 30°C ~ 60°C recommended range.
Transportation Temperature : 30°C ~ 60°C recommended range.
Usual Shipping Container : Tank cars, tank trucks, drums, pails, carboys.
Transport / Storage Pressure : Atmospheric

Storage Temperature : 45°C maximum
Materials and Coatings Suitable : Mild steel, stainless steel
Materials and Coatings Unsuitable : Natural rubber, butyl rubber, PVC
Compatibility with plastic materials can vary, we therefore recommend the compatibility is tested prior to use.

Handling / Storage, General Notes : Keep container closed. Handle containers with care, Open slowly in order to control possible pressure release. Store in a cool, well ventilated place away from incompatible materials.
Extreme caution must be used in tank gauging or similar operations because overheating could cause lethal concentrations of hydrogen sulfide to accumulate in the head space of containers.
DO NOT handle, store or open near open flame, sources of heat or sources of ignition Protect material from direct sunlight.
This material is not a static accumulator but use proper bonding and or grounding procedures.
DO NOT pressurize, cut, heat or weld containers. Empty product containers may contain product residue. DO NOT reuse empty containers without commercial cleaning or reconditioning.

Additional Warnings : Product liberates very toxic gas when overheated. Keep at temperature below 60°C.
Container remains hazardous when empty. Continue to observe all precautions.

8 Exposure Controls / Personal Protections

Occupational Exposure Limits : This product contains mineral oil and heat sensitive material. Under certain conditions (open heating and or mechanical shear), the following component(s) with a recognized or recommended OEL value may be released.
- Hydrogen sulfide (Eight-hour time-weighted average, airborne concentration) : OSHA FEB 2007 SCHEDULE 1: 10, 14 MG/M³
- Mineral oil mist (Eight-hour time-weighted average, airborne concentration) : OSHA FEB 2007 SCHEDULE 1: 5. MG/M³, vapour excluded.

Engineering Controls : The use of local exhaust ventilation is recommended to control process emissions near the source.
Laboratory samples should be handled in a lab hood.
Provide mechanical ventilation of confined spaces.

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- Personal Protection General Advice** : The use and choice of Personnel Protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum safety precaution that safety glasses with side-shields and work-clothes that protecting arms, leg and body be used. In addition, any person visiting an area where this product is handled. In general, we recommend as a minimum safety precaution that safety glasses with side-shields and work-clothes that protecting arms, legs and body be used. In addition, any person visitinig an area where this product is handled or processed should at least wear safety glasses with side-shields.
- Personal Protection Special Advice** : Based on and limited to TLC-KOYA CHEMICALS MFG SDN BHD experience of this product as such, the following special advice is believed to provide satisfactory protection for the industrial user or handler.
- Respiratory Protection** : Where concentrations in air may exceed the limits given in this section, it is recommended to use a half face filter mask to protect from over exposure by inhalation. Suitable filter material depends on the amount and type of chemicals being handled. In the workplace, but filter material of type "B-P" or similar may be considered for used.
- Hand Protection** : When handling this product, it is recommended to wear chemicals resistant gloves. The choice of suitable protective gloves on work conditions and what chemicals are handled, but we have positive experience with gloves made of PVC or Nitrile. Gloves should be replaced immediately if sign of degradation is observed.
- Eye Protection** : When handling this product, it is recommended to wear splash resistant goggles.
- Skin / Body Protection** : When handling this product, it is recommended to wear a chemical resistant apron, jacket and rubber boots.

9 Physical and Chemical Properties

- Boiling : 240
Vapor Pressure (mm gh) : N/A
Vapor Density (Air=1) : >1
PH Value : 7.0 - 11.5
Appearance : Colourless or Red
Viscosity at 100C : 2.84 mm²/S
Specific Gravity (H20=1) : 1.12
Percent Volatile by Weight : N/A
Evaporation Rate (Water = 1) : N/A

10 Stability and Reactivity

- Stability : Stable
Conditions to avoid instability : Avoid overheating
Contact with acids
Materials and conditions to avoid (incompatibility) : Strong oxidizing agents
Hazardous polymerization : No
Hazardous decomposition products : When heated above 60°C (140°C), Hydrogen Sulfide (H²S)(Toxic) may be released.

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11 Toxicological Information

Inhalation	: Negligible hazard at ambient (10°C ~ 38°C) temperature. WARNING. If overheating especially in the presence of water, hydrogen sulphide may be released. This can cause respiratory collapse, coma and even death without necessarily any odour being sensed. Avoid breathing vapour or mists. Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased risk of infection.
Skin Contact	: Low order of toxicity. Frequent prolonged contact may cause mild skin discomfort.
Eye Contact	: Severely irritating. If not removed promptly, will injure eye tissue, which may result in permanent damage.
Ingestion	: Minimal toxicity

12 Ecological Information

Ecological and Bioaccumulation	: Expected to be harmful to aquatic organisms. Long term adverse effects to aquatic organisms are possible if continuous exposure is maintained.
Environmental Degradability	: This Product is not expected to be "readily" biodegradable. A component(s) of this product is expected to be "inherently" biodegradable according to OECD guideline.
Environmental Mobility	: This is a preparation and environmental assessment based on component data and that of similar products. A mineral oil component of this product floats and can migrate from water to land.

13 Disposal Information

The following advice only applies to the product as supplied.

- Combination with other materials may well indicate another route of disposal. If in doubt, contact TLC-KOYA CHEMICALS MFG SDN BHD or local authorities.
- Empty packaging should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor.
- Care should in any case be taken to ensure compliance with national and local authorities.
- This product is NOT suitable by either landfill or via municipal sewers, drains, natural streams and rivers.
- This product will generate an ash if burned. It can be burned directly in appropriate equipment.

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14 Transport Information

Land : This product is not regulated for road and rail transport.
SEA - IMDG : This product is not regulated for sea transport.
Air (ICAO/IATA) : This product is not regulated for air transport

15 Regulatory Information

Governing Directive : Occupational Safety and Health (Classification, Packaging and Labelling of Hazardous Chemicals). Regulations 2007 Act 514.
ACCESSIBILITY on this CSDS according to the above ACT on Regulation 10.(1)(a), must be available and easily accessible by any personb who uses or handles this product.

Label Name : Single Grade Engine Oil (Group 1)

Indication of Special Risks : R36/37/38 Irritating to eyes, respiratory system and skin.

Indication Of Safety Precautions : S2 Keep out of reach of children.
S9 Keep in a well ventilated place
S14 Keep away from strong oxidizing agent - acids, alkaline
S16 Keep away sources of ignition - "No Smoking"
S23 Do not breathe spray, vapour, fumes or gas
S43 In case of fire, use dry chemical powder, foam, carbon dioxide (CO₂)
S56 Do not discharge into drains or the environmental, dispose of to an authorized waste collection point.

16 Other information

Further information : None
Print date : 15-7-2014

N/A - Not Applicable N/D - Not Determined

All recommendations for the use of our products, whether given by us in writing, orally, or to be implied from data or test results obtained by us, are based on the current state of our knowledge at the time such recommendations are made. When additional information is obtained, these recommendations may be updated. They may also be influenced by circumstances outside our control. Notwithstanding such recommendations, the user is responsible to determine that the product as supplied by us, is suitable for the process or purpose he intends to use it. The user of the product is solely for compliance with all laws and regulation applying to the use of the product. Since we cannot control the application, use or processing of the products, we do not accept responsibility therefore. The user shall ensure that the intended use of the products will not infringe in any party's intellectual property rights.

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