Red Stallion Part# 05-063
05-064
05-065
05-066
05-067

MATERIAL SAFETY DATA SHEET

SECTION1: MATERIAL DENTIFICATION AND USE		FLAMMABLIIITY HEALTH	REACTIBITY PERSONAL PROCTION
Material Name Identifier : Brake Fluid Dot3			
Manufacturer's Name: QUALITY LIQUID PACKAGING			
Address: 50 Tiffield Road Unit 9			
City: Toronto	Province: Ontario		
Postal Code: M1V 5B7	Emergency Telephone# (416) 609-0828		
Trade Name & Synonyms Rev Brake Fluid Dot3	R 529, R530,R531,R532,R533,&R535	Material Use	

SECTION 11 – HAZARDOUS INGREDIENTS OF MATERIAL				
Hazardous Ingredients	**Approximate Concentration %**	**C.A.S.N.A or U.N Numbers**	**Hazard**	**LD50 LC50**
Diethylene glycol monornethyl ether	1-4%	111-77-3	combustible, toxic	Rat LD50=4m/kg,LD50=9210mg/kg Rabbit:LD50µ1/kg
Triethylene glycol monornethyl ether	<=40%	112-35-6	WHMIS, not hazardous.	Rat LD50=11300µ1/kg Rabbit :LD50µ 1/kg
Triethylene glycol monobuhyl ether	>=30%<=35%	143-22-6	Toxic	Rat LD50=5300mg/kg LD50=6.6g/kg Rabbit:LD50mg/kg LD50µ/kg
Triethylene glycol	0-10%	112-27-6	WHMIS, not hazardous.	Rabbit: 16ml/kg 24H occluded rabbit. Rat16ml/kg , **see notes below**
*Diethylene glycol monobuhyl ether Diethylene glycol monopropyl ether	5-10% 0-3%	112-34-5 6881-94-3	**Toxic** WHMIS, not hazardous.	Rat:LD50=5660mg/kg LD50=6.6g/kg Rabbit LD 50mg/kg, LD 50g/kg LD 50 not available.
Poly (ethyiene oxide)	5-30%	25322-68-3	WHMIS, not hazardous.	LD 50 not available.
Diethylene glycol	0-5%	111-46-6	WHMIS, not hazardous.	Rat LD 50 =12565mg/kg Rabbit: LD 50=11890mg/kg

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Polyethelyne glycol monornethyl ether	0-25%	9004-74-4	WHMIS, not hazardous.	LD 50 not available.
Polyethelene glycol monobuhyl ether	10-25%	9004-77-7	**Toxic**	LD 50 not available.
Triethylene glycol monornethyl ether	0-50%	112-50-5	WHMIS, not hazardous	Rat: LD50=7750mg/kg Rabbit: LD50m/kg.

*Indicates toxic chemicals subject to the reporting requirements of Section 313 of title III and of 40 CFR are present.

****Notes****

Triethylene glycol: Rat male, Mortality: 0/5 Major Signs: Sluggishness, Unsteady Gail, Gross Pathology: None Rat Female, Mortality: 0/5 Major Signs: Sluggishness, Unsteady Gail, Gross Pathology: None
Rabbit: male, Mortality: 0/5 Major Signs: Emaciation and abdominal distension, Gross Pathology: Lungs discolored, stomach & intestines Liquid filled, slight visualization of skin at application site.
Rabbit: female, Mortality: 1/5 Major Signs: Emaciation and abdominal distension, Gross Pathology: Lungs discolored, stomach & intestines Liquid filled, slight visualization of skin at application site.

Significant Data with possible relevance to humans.

Evidence of kidney and liver injury was observed in rats receiving triethylene glycol, monomethyl ether at concentrations of 0.5% and grater in drinking water for 30 days. In studies in rates trithylene glycol monomethyl ether produced testicular atrophy when administered in drinking water over a 90 day period at dosage level of 4 g/kg day. This effects was not seen are oral dosage levels of 1.2g/kg /day or when applied to the skin for 90 days at the highest dosage levels.attainable.4g/kg/day Evidence of developmental toxicity in the presence of maternal toxicity was noted in offspring of pregnant receiving large oral doses of triethlene glycol monomethyl ether. Doses of 1250 mg/kg/day and higher administered during the period of organogenesis were associated with effects typically attributed to delayed development. A dose of 1000mg /kg was a clear. No observed effects level (NOEL) for developmental toxicity in this species. No evidence of developmental toxicity was noted in rabbits even at doses as high as 1500mg/kg a dose which was severe to the mothers contains one or more amines, which may react with nitrites to form Nitrosomonas. Some nitrosomonas have been shown to be carcinogenic in laboratory animals.

Triethylene glycol was given to rats by inclusion in their diet for 90 days at all concentrations of 10000, 20000, or 50000ppm. At the highest dose there were decreases in body weight. Physiologic response to these high doses was observed in kidney weights and urinalysis. No specific organ toxicity was seen.

In a 9-day (whole body) repeated inhalation exposure (6hr/day) study with rats, mortality occurred at 4284mg/me and effects included eye irritation and increases alanine aminotransferase and alkaline phosphates activities.: at 494 mg/me there were slightly increased alkaline phosphates activity. In a subsequent 9-day (nose only) repeated aerosol study rats were exposed to concentrations up to 1036 mg/me. The only effect noted was slight (not statistically or biologically significant) decreased in body weight gain at 517mg/m^3 and a 1036 mg/m^3 but not at 102mg/me. No indications of local or systemic target organ toxicity were noted including effects on hematology, clinical chemistry or urinalysis. In a sensory irritation study in mice, exposure to high concentrations of triethylene glycol aerosol resulted in a decreased respiratory rate. The RD50 or the concentration which produced a 50% decrease in respiratory rate was 5.1 mg/l There was no evidence in developmental toxicity studies for either embryo toxic or Teretogenicity effects in mice or rats given triethylene glycol by gavages. Maternal toxicity was seen as reduced body weight and food consumption increased water consumption and increased relative kidney weight with rats and clinical signs and increased relative kidney weight with mice. There was no histologic evidence of damages to the kidneys in either species. The no –observed effects doses for maternity toxicity were 1125 mg/kg/day for rats and 5630 mg/kg/day for mice. Minor fetotoxicity (reduced fatal body weights and increased skeletal variations) was present with doses of 11260 mg/kg/day for rats and 5630 and11260mg/kg/day for mice. The no observable effect dose for fetotoxicity was 5630 mg/kg/day for rats and 563mg/kg/day for mice. A chronic dietary feeding study of diethylene glycol with rats showed mild kidney injury at 1% while concentrationsof 2% and 4% caused more marked kidney injury. In addition at 2% and 4% of diethylene glycol in the diet some rats developed benign papillary tumors in the urinary bladder. These have been attributed to the presence of urinary bladder calcium oxalate stones. No evidence for carcinogenicity was found with a chronic skin painting study with

dethylene glycol in mice. The absence of a direct chemical carcinogenic effect accords with the results in in-vitro genotoxicity studies which show that it does not produce mutagenic or clastogenic effects, A feeding study employing up to5.0% diethylene glycol in the diet failed to produce any teratogenic effects. In a mouse continuous breeding study with large doses of diethylene glycol in drinking water there was no evidence for reproductive toxicity at 3.5% (equivalent to6.1 mg/kg/day) as reduced numbers of litters live pups per litter and live pup weight. No such effects were seen at 1.75% (approximately 3.05 g/kg/day) The relevance of these high dosages to human health is uncertain. Pregnant rats receiving undiluted diethylene glycol by gavage over the period of organogenesis has toxic effects at 410 and 8.0ml/kg/day as mortality.decreased body weight decreased food consumption and increased liver and kidney weights. Fetotoxicity was seen only at these maternally toxic dosages. Decreased fatal body weight occurred at8.0ml/kg/day and increased sketetal variants at 4.0 and 8.0ml/kg/day. No embryo toxic or teratogenic effects were seen neither maternal toxicity nor fetotoxicity occurred at 1.0 ml/kg/day. In a study with mice also receiving undiluted diethylene glycol over the period of organogenesis maternal toxicity occurred at 2.5 and 10.0 ml/kg/day but not at 0.5ml/kg/day Definitive developmental toxicity was seen in this species. An acute nose –only exposure (4-hr) to an irrespirable aerosol (2.83-2.53 microns) of diethylene glycol at amean concentration of 5.08mg/l produced no sins of toxicity or irritancy.

SECTION 111 –PHYSICAL /CHEMICAL CHARACTERISTICS.	
Boiling Point: 260°C	Specific Gravity: (H20=1): 1.039
Vapour Density: Heavier than air	Evaporate rate: Slower than ether
Coating V.O.C: N/A	Solubility in water: Soluble
Material V.O.C N/A	Appearance and odour: transparent yellow liquid with a mild odour.

Section 1V –FIRE AND EXPLOSION HAZARD OF MATERIAL
Flash Point(COC): 230°C
Flammable Limits in air by volume : Lower: N/A Upper: N/A
Extinguishing Media: Foam, Alcohol foam, Co_2, Dry chemical and water fog.
Special Fire Fighting Procedures: Do not enter confined fire space without proper protective equipment, including NIOSH or similarly approved self-contained breathing apparatus. Cool fire exposed containers with water. Do not direct a solid stream of water or foam into hot burning pools as this may cause frothing and increased fire intensity.
Unusual fire and explosion hazards: Treat as petroleum oil type product. Toxic combustion by-products may be generated.

SECTION V-REACTIVITY DATA
Stability: Stable
Conditions to avoid: Avoid excessive temperatures. Warning: do not mix this product with either nitrites or nitro sating agents, because a nitrosamine may be foamed. Nitrosamines may cause cancer.
Incompatibility (Materials to avoid): Strong alkalizes high temperatures in the presence of strong bases, acids or strong oxidizing agents.
Hazardous decomposition or by-products: Incomplete combustion can produce carbon monoxide, carbon dioxide, unidentified hydrocarbons and other harmful product.

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Polymerization: Will not occur.

SECTIONVI (a)-HEALTH HAZARD DATA

Inhalation health risking and symptoms of exposure: Inhalation of mists and vapors may cause pulmonary irritation, dizziness and nausea and in severe cases the victim may be overcome by the mist or vapor.

Skin and eye contact health risks and symptoms of exposure: Product is not expected to be a primary skin irritant. Repeated skin contact may cause defecting of the skin and subsequent irritation. Eye contact may cause irritation.

Skin absorption health risks and symptoms of exposure: product is not expected to be absorbed through the skin.

Ingestion health risks and symptoms of exposure: Ingestion may cause gastrointestinal irritation, nausea and vomiting.

SECTIONVI (b)-HEALTH HAZARDS (ACUTE AND CHRONIC)

Acute Inhalation: Exposure to high concentrations of aerosol generated at room temperature may cause lung injury and liver dysfunction. **Skin contact**- repeated or prolonged exposure may cause discomfort and local redness, defecting and drying of the skin. **Eye contact**- Irritation. **Ingestion**- Gastrointestinal irritation, nausea and vomiting. Components of this formulation have caused slight embryo fetal toxicity (delayed development), but no increase in birth defects in laboratory animals.

CARCINOGENICITY: NTP? IARC MONOGRAPHS? OSHA REGULATED?
See Section II above.

Medical Conditions Generally aggravated by exposure: Sensitivity of skin to oils and other petroleum products.

Emergency and First Aid Procedures: Inhalation Overexposure: Move victim to fresh air, administer artificial respiration. If necessary and seek medical aid. **Skin contact:** Wash with soap and water. **Eye contact:** Flush eyes with water for 15 minutes, holding eyelids open. If irritation persists, contact a physician. **Ingestion:** if patient is fully conscious give 2 glasses of water. Induce vomiting. If spontaneous vomiting occurs, keep head below hips to reduce chance of aspiration into lungs. Consult physician immediately.

SECTION VII- PRECAUTIONS FOR SAFE HANDLING AND USE.

Steps to be taken in case material is released or spilled: Small spills can be flushed with large amounts of water. For large spills. Transfer the bulk material into another container. Contained spilled material with dike a boom. Absorb material with suitable absorbent. Pick-up absorbed material in accordance with local, provincial and federal regulations.

Waste disposal method: Employ normal procedures for petroleum products with consideration for the chemical contents of the product. Dispose in accordance with local provincial and federal regulations.

Precautions to be taken in handling and storing: Petroleum product. Keep clean and dry. Do not store near sources of ignition. Do not leave partial drums or containers open? Keep out of children.

Other precautions. Empty drums retain hazardous product residue. All precautions must be followed when empty. Do not use or store empty drums near heat open flame or welding torches.

SECTION VIII – CONTROL MEASURES.

Respiratory Protection: Not normally required. In enclosed areas, chemical respirators and /or self contained breathing apparatus may be necessary.

Ventilation: Mechanical ventilation is not normally required.

Protective Gloves. Chemical resistant gloves are recommended.

Eye Protection: Splash proof safety gloves are recommended.

Other Protective Clothing or Equipment: Protective aprons may be desirable.

Work/Hygienic Practices: Basic personal hygienic practices such as washing before eating are advised.

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SECTION IX – PREPARATION DATE OF M.S.D.S.

THIS MSDS WAS PREPARED ON September 1, 2011
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