

Kode Produk 507	PERTAMINA Marketing and Trading Directorate	Making date : August 2006 Revision date : 06/08/2006
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MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTITY

PRODUCT NAME : Enduro 4T SAE 20W-50
 PRODUSEN : PERTAMINA
 Jalan Perwira No. 4
 Jakarta Pusat Kode Pos 10110
 Phone : 021-3815509, Faximile : 3455344
 Phone for Emergency Situation (24 hours) : 021-3816732
 Phone for MSDS Information : 021-3815578

2. INGREDIENT COMPOSITION / INFORMATION

Chemical Name : Petroleum Hydrocarbon and additive
 Hazardous ingredient :
 This product does not contain any hazardous ingredient as the regulation from *European Union Dangerous Substances / Preparations Directive*. See point 15 for the regulation of ingredient analysis. See point 8 for the exposure limit (if any).

3. INTRODUCTION OF DANGER

Danger Standard Communication :
 Exposure effect : There is no significant impact on short time exposure. Long time exposure can cause eyes irritation.
 Emergency Data : Brown Liquid

4. FIRST AID REGULATION

Eye contact : rinse with water for 15 minutes minimum. If there is an eye irritation, please contact the doctor.
 Skin contact : wash the exposure skin with water and soap.
 Inhaled : Supposed to be not caused any danger. Take the person to fresh air if there is any dangerous effect
 Swallowed : give 1 or 2 glass of water, contact the doctor, emergency room or danger supervision centre.
 Don't give anything through the mouth that can cause vomit or sick.

5. FIRE HANDLING

Fire Extinguisher : Carbon dioxide, foam, dry chemical and water fog
 Fire Extinguished Procedure : Water and foam can cause foaming. Splashing the container with water to keep the container cold. Do the splashing to remove the spill. Don't discard the spill to aqueduct, gutter, or clean water source.
 Special Protector Equipment : The fireman have to wear *Self Contained Breathing Apparatus* (SCBA)
 Explosion and another fire danger : Toxic Fumes
 Flash point, °C : 87 (ASTM D-92)
 Flammable limits – LEL : none
 UEL : none
 NFPA Hazard ID : Health : 2, Flammability : 1, Reactivity : 0
 Hazardous Material Decomposition: Carbon monoxide. Metal Oxide. Another Oxide.

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6. SPILL AND LEAKAGE HANDLING	
Procedure note	: Report the spill happened according to system and procedure decided. If the spill could be enter the aqueduct or river, please report to authority officer as soon as possible.
Leakage and Spill Procedure	: Absorb the spill by saw-dust, clay, and another fire resistant material. Clean up and discard to the location that have been decided.
Prevention on Environment	: Prevent the spill entering the gutter, waste canal, and into the soil.
Prevention on Human being	: see section 8.

7. HANDLING AND STORAGE	
Handling	: There is no special action. Handling temperature maximum 60°C. See section 8 for the the suggestion of wearing protection equipement when handling this product. Container must be closed if not in used.
Storage	: Don't keep this product on open container or non-label container. Keep away from oxidator or flammable material. Can cause smell or toxic gas if the temperature exceed 45 °C for a long time or keep near heat source with temperature > 121 °C.

8. EXPOSURE CONTROL / SELF PROTECTION	
Ventilation	: Commonly there is no special regulation for ventilation on normal condition.
Breath Protection	: There is no special regulation on normal condition.
Eye Protection	: Use eye protection equipment.
Skin Protection	: Regulation for personnel hygiene still have to give a notice. Use the nitrile gloves, long arm shirt, boots. Don't use ring or watch because it can make skin reaction.
Exposure limit	: This product doesn't contain any material that have been known have exposure limit value. But we can use exposure limit value (OSHA PEL) from the vapor, i.e. 5.00 mg/m ³ and ACGIH STEL, i.e. 10 mg/m ³ .

9. PHYSICAL AND CHEMICAL DATA	
No. SAE	: 20W-50
Viscosity Kinematic at 40°C, cSt	: 169.64 (ASTM D-445)
100°C, cSt	: 18.72 (ASTM D-445)
Viscosity Index	: 124 (ASTM D-2270)
Spesific Gravity 15/4 °C	: 0.8884 (ASTM D-4052)
Colour ASTM	: Blue (Visual)
Flash Point (COC), °C	: 231 (ASTM D-92)
Pour Point, °C	: -18 (ASTM D-97)
TBN	: 8.23 (ASTM D-2896)

10. STABILITY AND REACTIVITY	
Stability (thermal,light, etc)	: Stable
Situation/condition have to avoid	: High temperature
Material have to avoid	: Halogen acid and halogenated
Decomposition	: Carbon monoxide. Metal Oxide. Another Oxide. Smoke, hydrogen sulfide, alkyl mercaptans.

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11. TOXICOLOGY DATA	
----- TOXICOLOGY ACUTE -----	
Oral Toxicity (Rat)	: Non-toxic (LD 50: higher than 5000 mg/kg). ----- based on testing of similar material and component.
Skin Toxicity (Rabbit)	: Non-toxic (LD 50: higher than 2000 mg/kg). ----- based on testing of similar material and component.
Inhale Toxicity	: Non-toxic ----- based on testing of similar material and component serupa. The vapor can cause irritation on mucous membrane and the top of breathing tube if inhaled for a long time.
Eye Irritation (Rabbit)	: Non-irritating (Draize score : higher than 6, lower than 15) ----- based on testing of similar material and component.
Skin Irritation (Rabbit)	: Non-irritating (Primary Irritation Index : higher than 0.5, lower than 3) ----- based on testing of similar material and component.
Another Toxicity Data	: result of toxicology acute shows that there is no acute impact on breath, when tested by oil mist or vapor.
----- TOXICOLOGY REPRODUCTION -----	
There is no data that shows the product contain > 0.1 % material that can impact the reproduction.	
----- TOXICOLOGY KRONIK -----	
There is no data that shows the product contain > 1 % material that can impact health.	
----- ANOTHER TOXICOLOGY DATA -----	
There is no data that shows the product contain > 0.1 % material that has mutagen and teratogenic property.	

12. ECOLOGY INFORMATION	
Impact and damage on environment : Non-toxic ----- based on testing of similar material and component.	

13. DISPOSAL CONSIDERATIONS	
Not proven as hazardous material based on RCRA Regulation 40 CFR 261.	

14. TRANSPORTATION INFORMATION	
USA DOT	: not-regulate by USA DOT
RID/ADR	: not-regulate by RID/ADR
IMO	: not-regulate by IMO
IATA	: not-regulate by IATA

15. REGULATION INFORMATION	
Based on U.S. Superfund Amendment and Reauthorization Act (SARA) this product doesn't contain <i>EXTREMELY HAZARDOUS</i> more than 1%.	
SARA (311/312) REPORTABLE HAZARD CATEGORIES :	
This product contain chemical as follows :	
CHEMICAL	% -wt
Zinc Alkyl dithiophosphate	1.61%
Sodium Sulfonate	0.26%

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16. ANOTHER INFORMATION

Product condition and product fitting on special application out of company guarantee; all of the using risk will be the user responsibility. User and officer that handling this product must have the warning and product handling procedur. It's forbidden to change this document, except with law legacy.